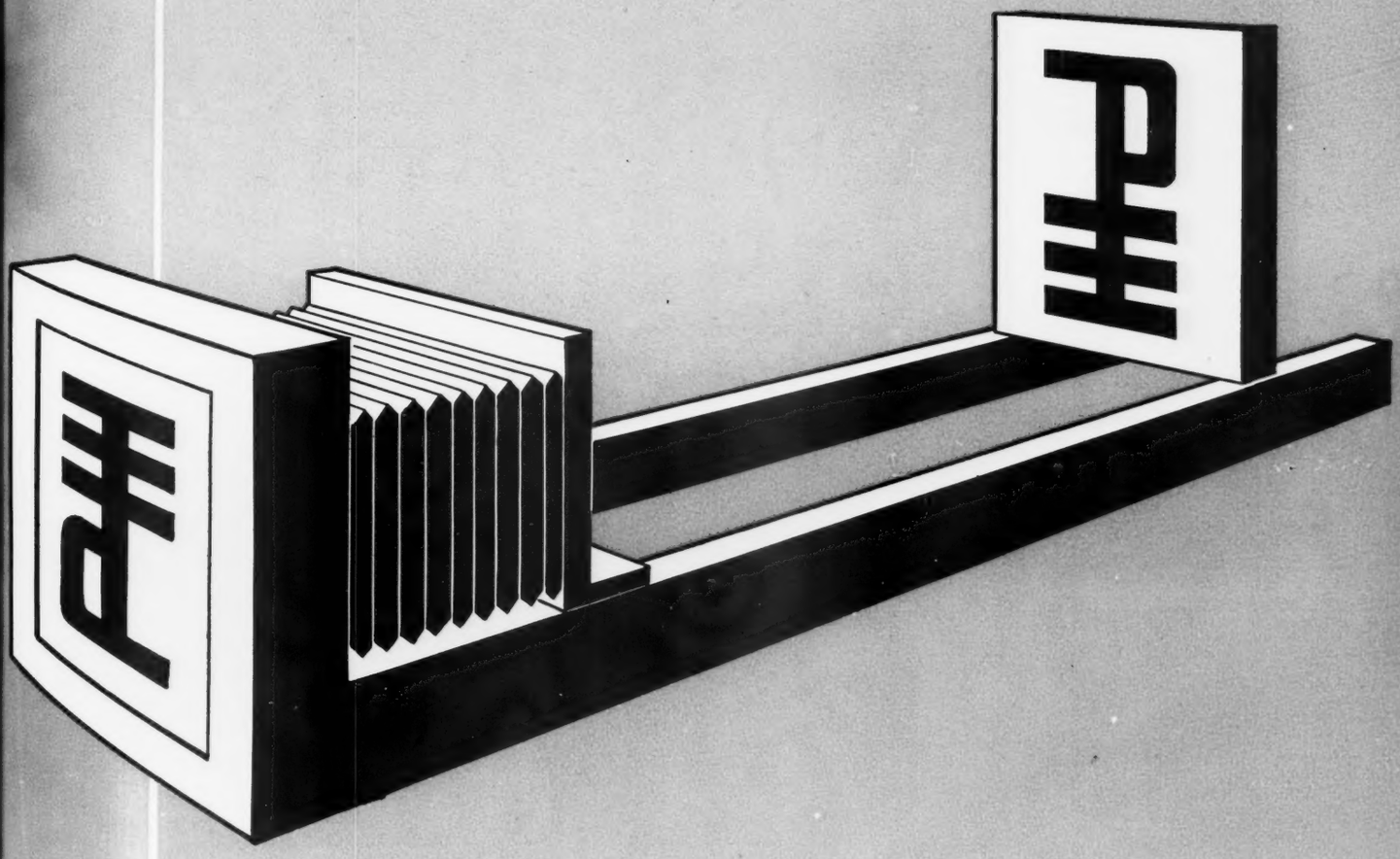
MARCH 1951

PLEASE ROUTE THIS COPY TO	
Manager	Pressroom F'm'n
Production Mgr.	Bindery F'm'n
Plant Supt.	Mailing F'm'n
Platemaking F'm'n	Maintenance Supt.
Composing F'm'n	Purchasing Agt.
For filing, please return to	

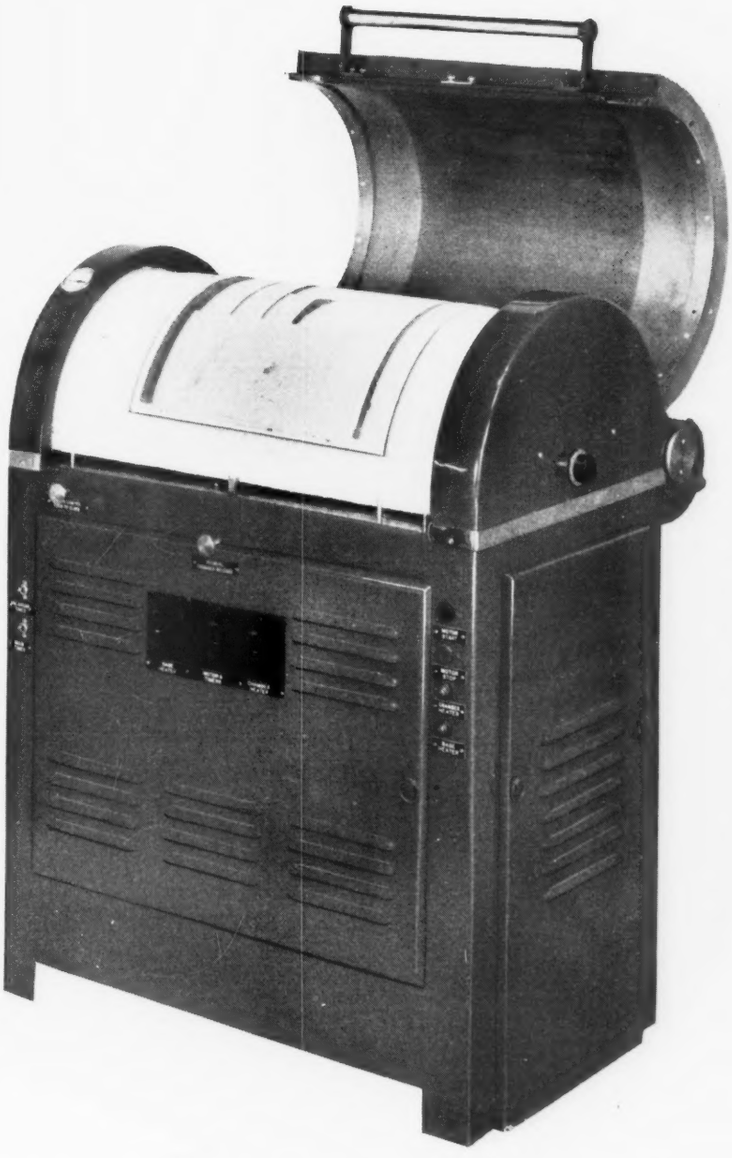
PRINTING EQUIPMENT *Engineer*



AN INDUSTRY-WIDE TECHNICAL PUBLICATION

BEST SELECTION
FOR THE MEDIUM-SIZE DAILY
4 PRESSES . . . complete line to meet the requirements of any newspaper in the medium-intermediate (five-figure circulation) group.
GOSS DUPLEX DEK-A-TUBE . . . 25,000-30,000 papers per hour. Any combination of units up to 48-page capacity with color.
GOSS UNITUBE . . . 30,000 papers per hour. Any combination of units from 8 to 48 pages with color.
GOSS DUPLEX UNITUBULAR . . . 36,000-40,000 papers per hour. Any combination of units from 8 to 48 pages with color.
GOSS UNIVERSAL . . . 36,000-40,000 papers per hour. (Single width, semi-cylindrical). Any combination of units up to 48 pages straight; 64 pages collect—with color.
Write for information on the Goss press that best fits your needs.
THE GOSS PRINTING PRESS COMPANY
1535 S. Paulina Street, Chicago 8, Illinois
Duplex Division: Battle Creek, Mich.
Goss Printing Press Co. Ltd., Preston, England
it's GOSS again

SAVE NEWSPRINT!



STA-HI® *Master Former*

● More and more newspapers these days are effecting a considerable saving in their paper consumption by changing to narrower newsprint rolls.

● Converting to narrower rolls means it is necessary to obtain maximum shrinkage in your dry mats. Publishers have found they can accomplish this without distorting the mats or sacrificing the high quality of their printing —by using the STA-HI Master Former.

● Master Formers are enabling many newspapers to get shrinkages of from three-quarters of an inch to one inch and in some cases even slightly more.

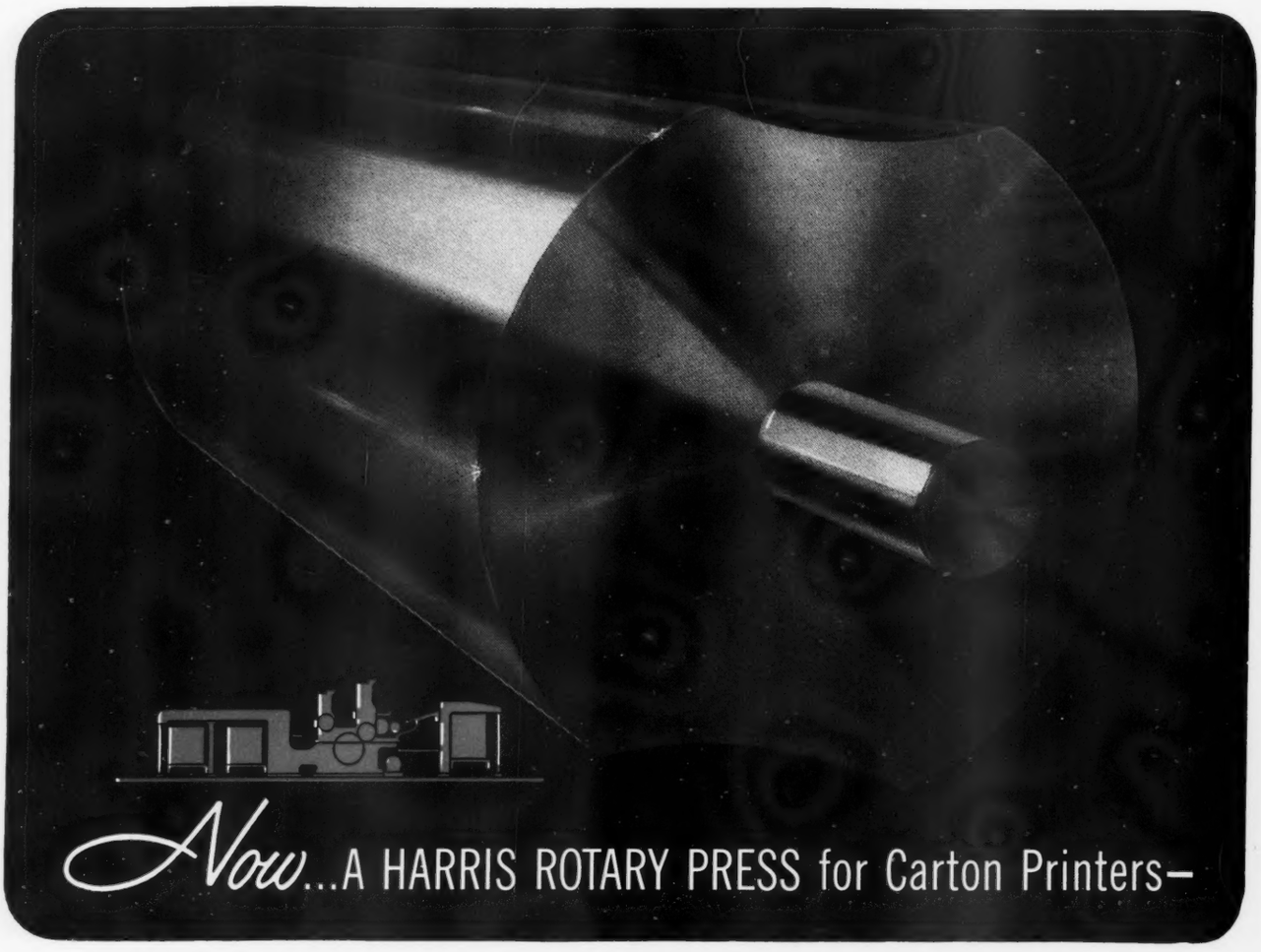
● The Master Former is "must" equipment in such a conversion because it gives you **uniform, automatically controlled shrinkage.** At the same time it "vacuum-forms" the mat to prevent buckles and other malformations common when the mats are as full of moisture as they must be for such high shrinkage.

● We'll be glad to tell you more about the savings you can make, not only in newsprint, but in valuable production time and expense, with the Master Former. Write for full details.

Sta-Hi Corporation

"SUPERIOR NEWSPAPER PRODUCTION MACHINERY"

235 W. WASHINGTON BOULEVARD ● BOX 152, WHITTIER, CALIFORNIA



Now...A HARRIS ROTARY PRESS for Carton Printers—

with ONLY ONE CYLINDER *for transfer*

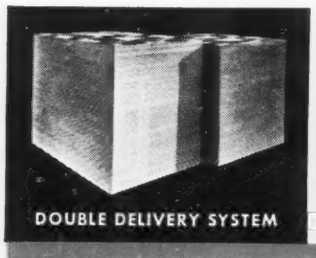
Sheets get less handling during transfer in this new Harris letterpress. A *single cylinder* between units, with the transfer grippers making only one grip and one release, protects register and prevents damage to sheets.

It is just one of the many ways in which Harris has designed a rotary two-color 45 x 65″ press to meet the special problems of the carton making industry.

For instance, *5 form rollers* on each color unit of this new, Harris letterpress assures smooth, even coverage on the most difficult solid carton designs. *Standard plate cylinders* take plates from existing precision plate-making equipment. The *double delivery* system gives twice as much drying time for finished sheets. It allows the piles to be unloaded without stopping the press. Harris *feed roll* register system gives positive control of front register without damage to the sheet.

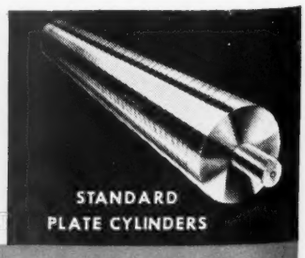
Carton printing can be made more profitable. May we discuss how this new rotary press can increase your production?

HARRIS-SEYBOLD COMPANY
GENERAL OFFICES, CLEVELAND 5, OHIO


DOUBLE DELIVERY SYSTEM

FIVE FORM ROLLS

FEED ROLL REGISTER


STANDARD PLATE CYLINDERS

CHECK THESE FEATURES WITH MEN WHO PRINT BY THEM

How to keep a color press operating in the black

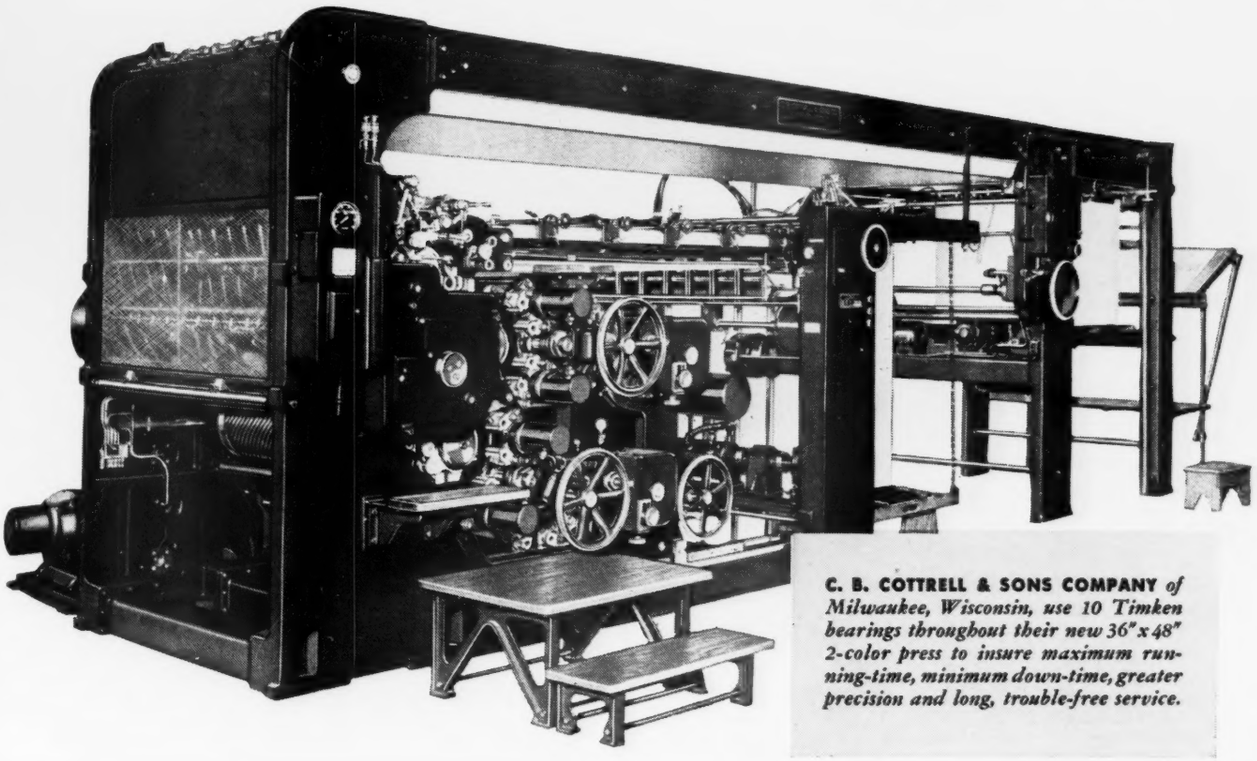
MINIMUM press maintenance and consistently high-quality printing combine to make for greater printing profits. And that's why C. B. Cottrell & Sons have mounted their 36″ x 48″ 2-color press on Timken® tapered roller bearings. A sheet-fed rotary letterpress, this new Cottrell press uses Timken bearings on the main tympan roller, two plate cylinders, main inker drive and main press drive—a total of 10 in all to insure greater precision, minimum down-time, long and trouble-free service.

Because Timken bearings eliminate all speed restrictions due to bearings, longer runs and more IPH are possible. Maintenance is minimized, wear is prevented. Lubrication and roll changes are made quickly and economically. Cylinders may be permanently aligned and minute pressure adjustments made. What's more, the true rolling motion and smooth surface finish of Timken bearings virtually eliminate friction, insuring minimum power loss.

Made of Timken fine alloy steel, Timken bearings normally last the life of the press. Rollers and races are case-hardened for resistance to wear and have tough, shock-resistant cores. Line contact between rollers and races gives maximum load-carrying capacity. And the tapered construction of Timken bearings enables them to carry any combination of radial and thrust loads.

No other bearing can give you *all* the advantages of Timken roller bearings. Where bearing precision and long, trouble-free service are important, make certain the trade-mark "Timken" is on every bearing you buy. Timken bearings are backed by over 50 years of bearing research and development. They're first choice throughout industry. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ont. Cable address: "TIMROSCO".

This symbol on a product means its bearings are the best.



C. B. COTTRELL & SONS COMPANY *of Milwaukee, Wisconsin, use 10 Timken bearings throughout their new 36″x48″ 2-color press to insure maximum running-time, minimum down-time, greater precision and long, trouble-free service.*

IT'S TIMKEN BEARINGS FOR VALUE!

To get the best value in bearings you may find this simple formula helpful:

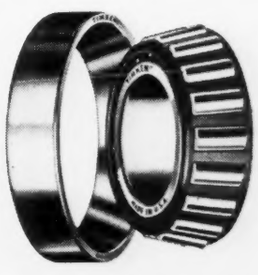
$$Value = \frac{quality + service + public\ acceptance}{price}$$

Obviously a big advantage *above* the line gives you more value than a small one *below*. No other bearing can match the uniform high quality, engineering and field service and overwhelming public acceptance you get with Timken bearings.

TIMKEN

TRADE-MARK REG. U.S. PAT. OFF.

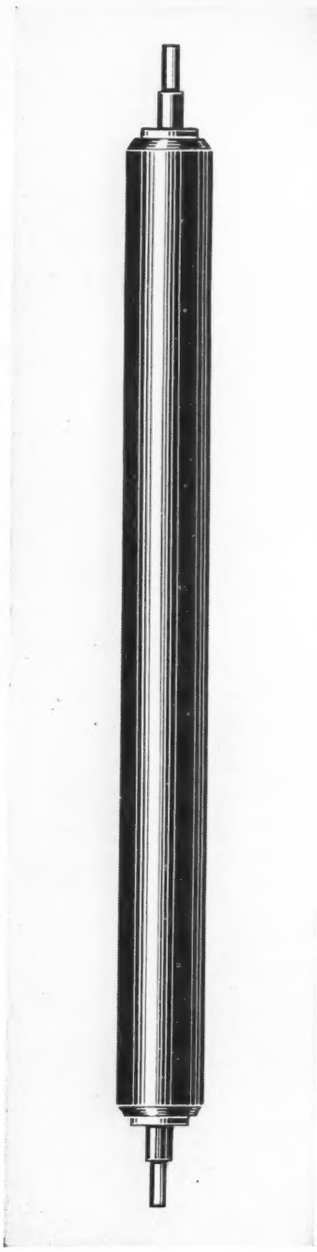
TAPERED ROLLER BEARINGS



NOT JUST A BALL ○ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL ◫ AND THRUST →◫← LOADS OR ANY COMBINATION →✳←

OVER ONE HUNDRED YEARS OF ROLLER MAKING

SAM'L BINGHAM'S SON MFG. CO.



Manufacturers of

RUBBER • NON-MELTABLE • FABRIC COVERED
ROTOGRAVURE • OFFSET
COMPOSITION • VARNISH-LACQUER • GRAINING

ROLLERS

IT'S NOW TIME TO GET YOUR COMPOSITION ROLLERS READY

for

SUMMER USE

SHIP YOUR OLD ROLLERS TO
THE FACTORY MOST CONVENIENT TO YOU

16 Modern Factories Serving Printers in 31 States

FACTORIES

ATLANTA 3
CHICAGO 5
CLEVELAND 14
DALLAS 1
DES MOINES 2
DETROIT 10
HOUSTON 6
INDIANAPOLIS 2

SAM'L BINGHAM'S SON MFG. CO.
MANUFACTURERS OF
PRINTERS' ROLLERS
LITHO-OFFSET ROLLERS

FACTORIES

KALAMAZOO 12
KANSAS CITY 6
MINNEAPOLIS 15
NASHVILLE 3
OKLAHOMA CITY 6
PITTSBURGH 3
ST. LOUIS 2
SPRINGFIELD, O.

Pacific Coast Sales Representative; THE CALIFORNIA INK CO., INC.

PRINTING EQUIPMENT *Engineer*

AN INDUSTRY-WIDE TECHNICAL PUBLICATION

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

EDITORIAL STAFF

MacD. SINCLAIR, Editor

ADAM HENRY REISER
Associate Editor

EDWARD H. OWEN
Assistant Editor

BUSINESS STAFF

DON WILL, Publisher

William L. Osborn, Eastern Manager, 1712 Grand Central Terminal, New York 17, N. Y. Phone: MUrray Hill 6-5980.

Eugene A. Powers, Midwest Manager, 612 N. Michigan Ave., Chicago 11, Ill. Phone: SUperior 7-2444.

Subscription price per year, $3.50 in advance in U.S.A. Single copy current issues, 35c; feature issue $1 per copy; December Equipment and Supplies Catalog Issue $2 per copy in United States, $2.50 outside of United States. (U. S. currency). Subscriptions in foreign countries $4.50 (U. S. currency) in advance. Canadian printing plant mechanical and production executives receiving Printing Equipment Engineer under CCA regulations will be charged $1 postage per year in advance to cover additional postage to Canada.

Member Circulation CCA Controlled Audit

Volume 81 **Number 6**

PRINTING EQUIPMENT Engineer, Published monthly at 1276 West Third St., Cleveland 13, Ohio, Copyright 1951 by Willsea Publishing Co.

Acceptance under section 34.64 P. L. and R., authorized.

Printed in U. S. A.

LEADING ARTICLES

March 1951

Justification on Intertype's Fotosetter 23

Effect of New Equipment on Printer's Future 26
J. W. ROCKEFELLER, JR.

Storage of Offset-Lith Plates 27
E. J. MARTIN

Stuffing Machines at Minneapolis *Star* and *Tribune* 28

Expansion of Plant Facilities at Excelsior Printing Co 30

Western Div. of SNPA Mechanical Conference 32

Equipment and Supplies 34
- Newly Engineered Linotypes, 34
- Minor Burns Remedy, 34
- Plastic Molding Case, 34
- Synthetic Rollers, 34
- Automatic Clamp Added, 34
- Standard Process Gravure Spot Plater, 35
- Pressure-Sensitive Tape, 35
- Test Instrument Catalog, 35
- Improved Chute Block, 35
- Letterhead Design Booklet, 35
- Photo Sizing Method, 36
- Gardner Gauge, 36
- Power Shear Bulletin, 36
- Copy Machine Inks, 36
- Bearing Maintenance, 36
- Bushing Standardization, 36

Essential Accessories for the Pressroom—II 37

The ABC of Offset—XIII 39
GEORGE JOS. LENZER

ROP Color at Milwaukee *Journal* . . . 41
JOSEPH E. McMULLEN

Conference Dates Box 46

NPA Printing and Publishing Div . . . 48

Resistance of Paper to Water 48
M. S. KANTROWITZ

Patents for the Graphic Arts 50

Executive Paragraphs 56

Books 59
- The Genesis of Machine Typesetting, 59
- Theory and Practice of Presswork, 59
- Modern Silk Screen Printing, 60
- Screen Process Printing 1951, 60

They never wait...

. . . FOR NEWS IN AMARILLO!

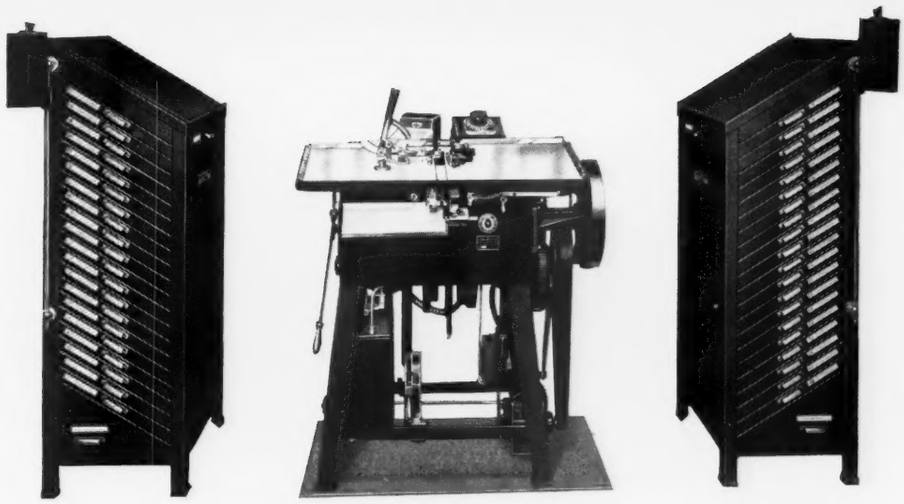
THE GLOBE NEWS gives it to them fast... hot off the wires; the *latest* news at the *earliest* possible moment.

This ever progressive newspaper equipped with a four unit SCOTT "Extra High Speed" press and folder always maintains edition schedules in its new modern plant, because SCOTT Presses and Folders take care of that. They are designed and built to do a *better* job and do it faster.

WALTER SCOTT & CO. INC.
PLAINFIELD, NEW JERSEY

Buy with Confidence... Buy **SCOTT**

15-L-2



Ludlow Simplicity

Simplicity in relation to Ludlow operation is not just a descriptive term, but a most important factor in the production program . . . First of all, the machine itself is simply designed for a single purpose—quick, accurate production of quality slug composition—without "gadgets" that often only hinder efficient operation. This simplicity makes for moderate operating and upkeep expense. Furthermore, the simplicity of Ludlow matrix assembly and casting enables capable compositors without any previous experience soon to produce job and display composition satisfactory for every requirement . . . Simplicity is only one of many reasons for the utmost satisfaction that hundreds and hundreds of users have found with the Ludlow System of all-slug composition.

The Elrod

for strip material from 1-point to 36-points in thickness that meets today's exacting printing requirements.

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14

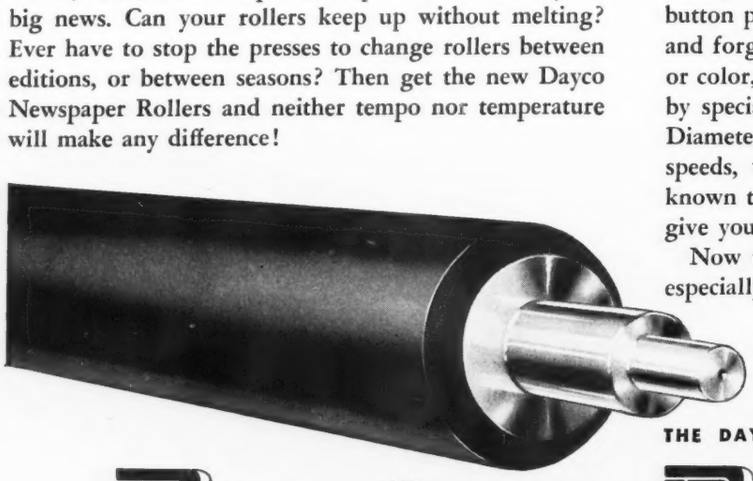
Set in members of the Ludlow Tempo family

with non-stop, push-button printing

Faster, faster is the tempo of the presses in these days of big news. Can your rollers keep up without melting? Ever have to stop the presses to change rollers between editions, or between seasons? Then get the new Dayco Newspaper Rollers and neither tempo nor temperature will make any difference!

Daycos are the world-famous Roller that made push-button printing come true—just push the starter button and forget about rollers. Daycos handle black and white or color, in any position. They are practically unaffected by special inks, washup solutions, oils, acids, moisture. Diameter, shape and softness are unaffected by press speeds, weather, climate or season. Daycos have been known to outlast other rollers 3 and 4 times! And they give you daily color—deep, true, fast as the news.

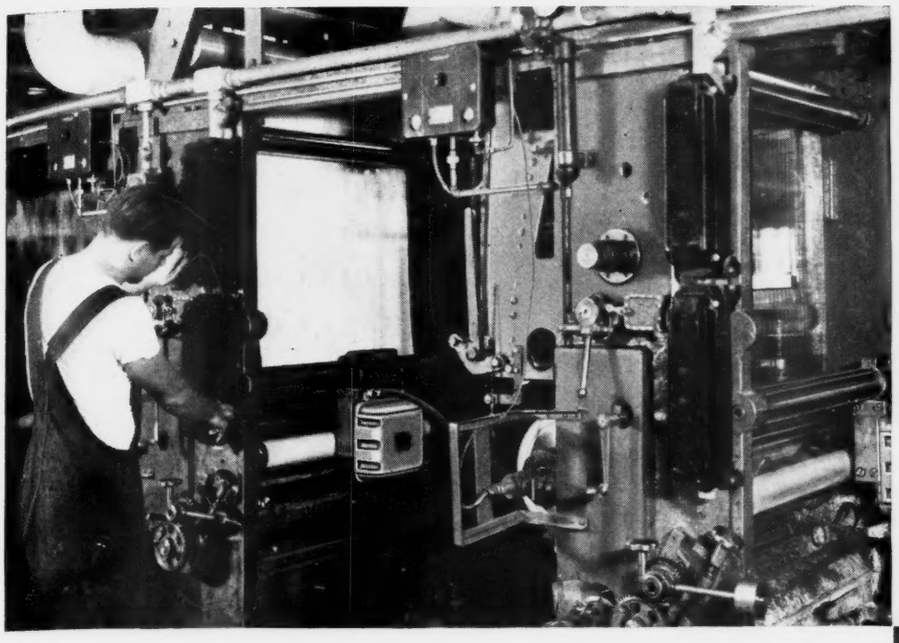
Now that material shortages are with us again, it is especially important to equip your presses with Daycos—the rollers that will see you through. Remember—nothing rolls like a Dayco—for years and years!



THE DAYTON RUBBER COMPANY, DAYTON 1, OHIO

Dayton Rubber

PIONEERS OF IMPROVEMENTS FOR BETTER PRINTING



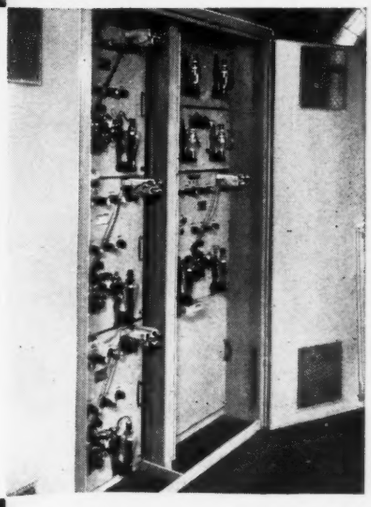
Holds hairline register on cellophane

At Milprint, Inc., in Milwaukee, which prints multicolor wrappers on a continuous roll for use by food packers, G-E color-register control has permitted a substantial increase in press speeds. Close register is held on this rotogravure press even on such difficult materials as cellophane, pliofilm, and cellulose acetate. As a result, this company calculates the savings in rejects will more than pay for the G-E equipment within a year.

Milprint, Inc., says:

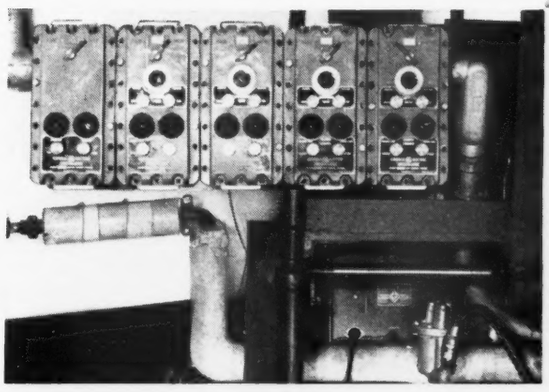
COLOR REGISTER CONTROL

WILL PAY FOR ITSELF IN ONE YEAR



Less Maintenance

Explosion-proof design of all press-mounted equipment such as these unit control stations at Milprint, sturdy construction of all components, and circuits designed for industrial use reduce and simplify maintenance. All-electronic system minimizes number of parts which can come out of adjustment.



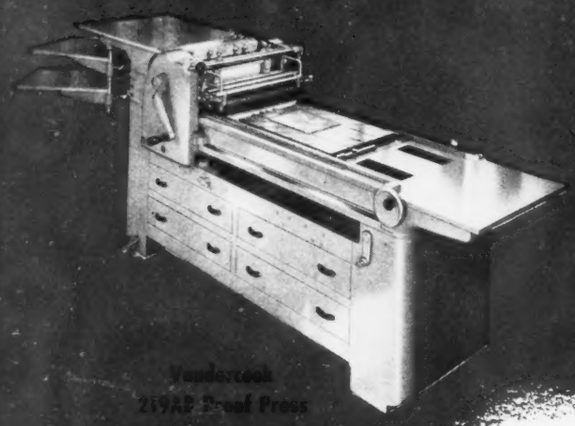
Less Waste

Waste is reduced and printing quality improved through accurate register because this all-electronic control provides a rate of correction that is proportional to the amount of misregister and is sensitive instantaneously to any error . . . no time is lost in magnetic relays picking up and solenoids operating.

Investigate Today! **For full information and details on this outstanding equipment, contact the printing specialist in your nearest G-E apparatus sales office or write now for bulletin GEA-5079 "G-E Register Control for Multicolor Printing."** ***Apparatus Department, Section 653-2, General Electric Company, Schenectady 5, N. Y.***

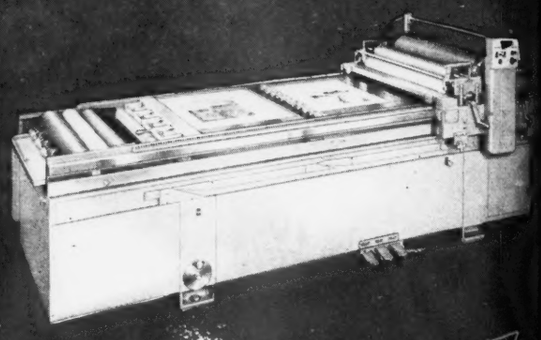
GENERAL ELECTRIC

653-2



Vandercook 22-34 Offset Proof Press

Completely power operated. Provided with automatic inking and automatic dampening. *Maximum printing surface 22½"x35" and maximum sheet size 28"x36".*

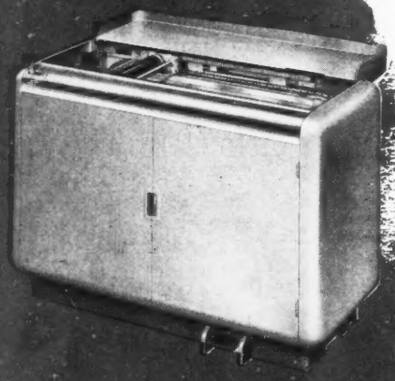


Vandercook 219AP Proof Press

Has adjustable bed for proving plates varying .240" in thickness without changing plate base. *Maximum plate or form 18"x24".*

Vandercook 42-28 Power Test Press

To register, line up and correct forms in chases for Kelly 3, Miller Major, Middle 41's, and smaller flat bed presses. *Maximum form 41"x28".*



Vandercook 23 "Safe Electric" Galley Proof Press

A high speed machine that delivers up to 40 proofs per minute. Has positive-action Safety Bar that stops press upon contact. *Maximum form 14"x26".*

Cut Costs and Increase Production with Vandercook Pre-Press Equipment

Increase the over-all efficiency of your plant—*improve quality, eliminate delays, get more printed sheets*—by adopting modern pre-press methods. Regardless of the type of plant you operate ... commercial printing, typesetting, photoengraving, offset lithography, newspaper, ink or paper laboratory, metal decorating... you can get Vandercook Pre-Press Equipment that will step up your output and reduce your costs. Write for your copy of the Vandercook catalog illustrated below and tell us something about your problem. We'll gladly make suggestions without obligation.

VANDERCOOK PRE-PRESS EQUIPMENT —CUTS COSTS!

VANDERCOOK & SONS, INC.

900 North Kilpatrick Ave., Chicago 51, Illinois

Largest Producer of Proof Presses and other Pre-Press Equipment for Letterpress, Offset and Gravure

Write

FOR THIS VANDERCOOK CATALOG

it illustrates and describes all Vandercook Proof Presses, Test Presses, Block Leveller, Plate, Type and Slug Gauges—and other Pre-Press Equipment.

2+2=4

It's as simple as that! A Miehle two-color Offset Press, with the addition of two more units becomes a four-color.

pioneered by Miehle, means that each printing unit forms an integral assembly so that one or more units may be combined with a feeder and a delivery to make a single-color, two-color or four-color press. To meet changing plant conditions, it is practical and economical to add units to presses after the original installation.

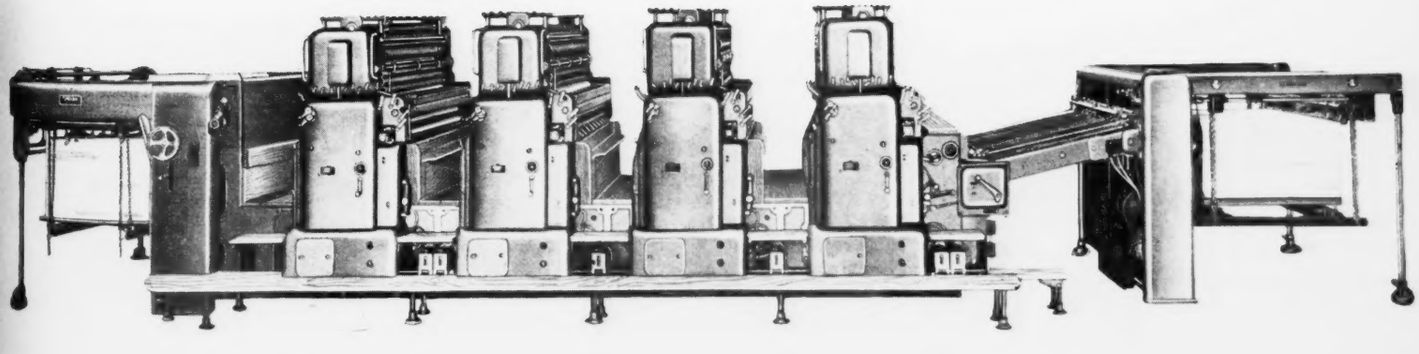
also means that a pressman familiar with a Miehle single-color will have little new to learn in handling a multicolor press because each printing unit is identical.

Send for Booklet 1008 which tells the complete story of why Miehle 61 and 76 Offset Presses produce more and better finished sheets at the end of the day's run.

a 2-color

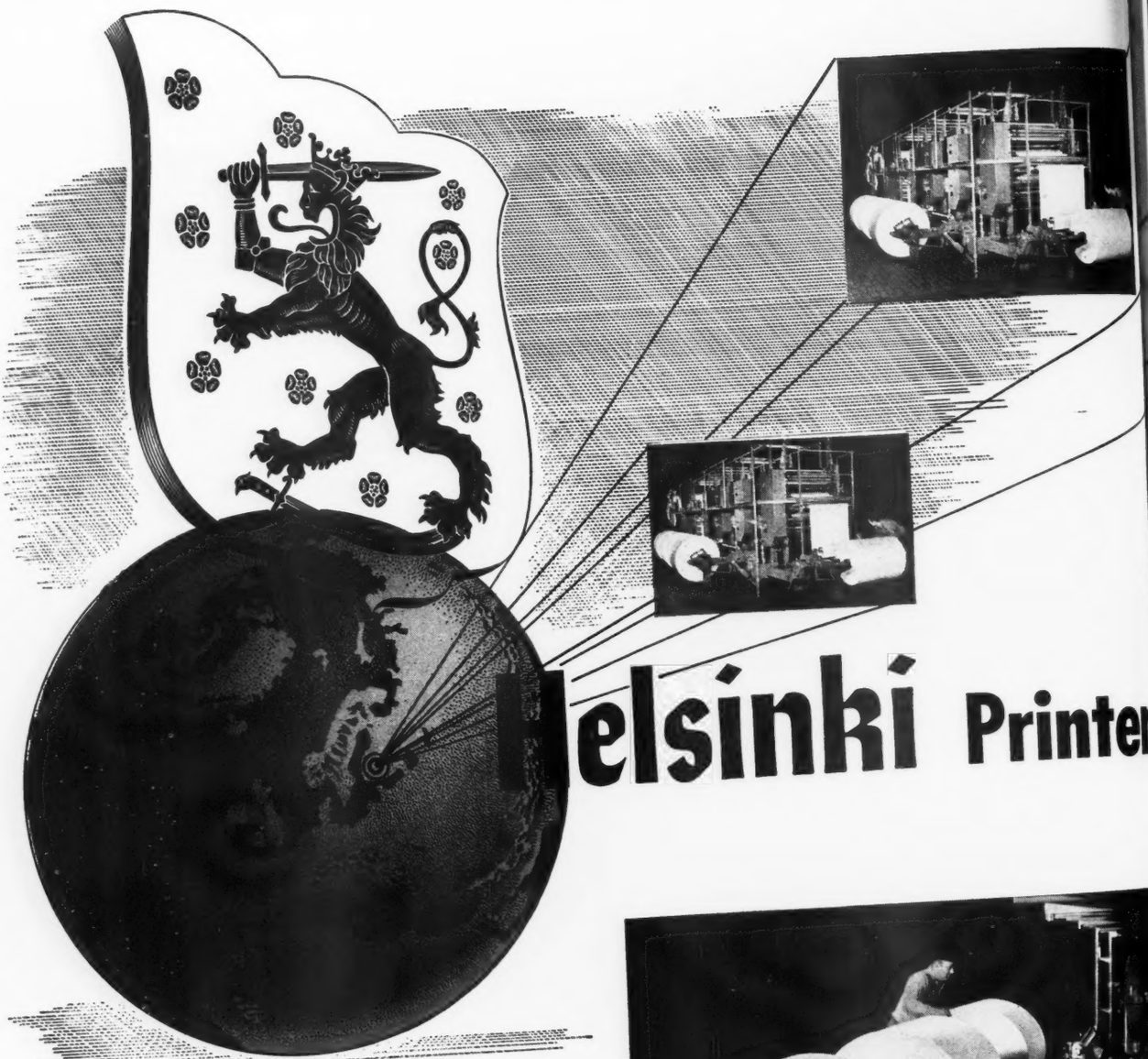
+2 more units

= a 4-color

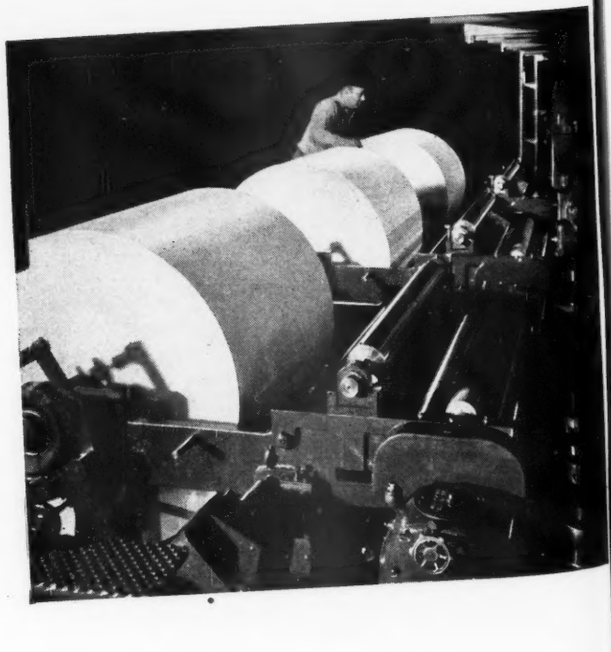


THE MIEHLE PRINTING PRESS & MANUFACTURING CO.

CHICAGO 8, ILLINOIS



elsinki Printer ge

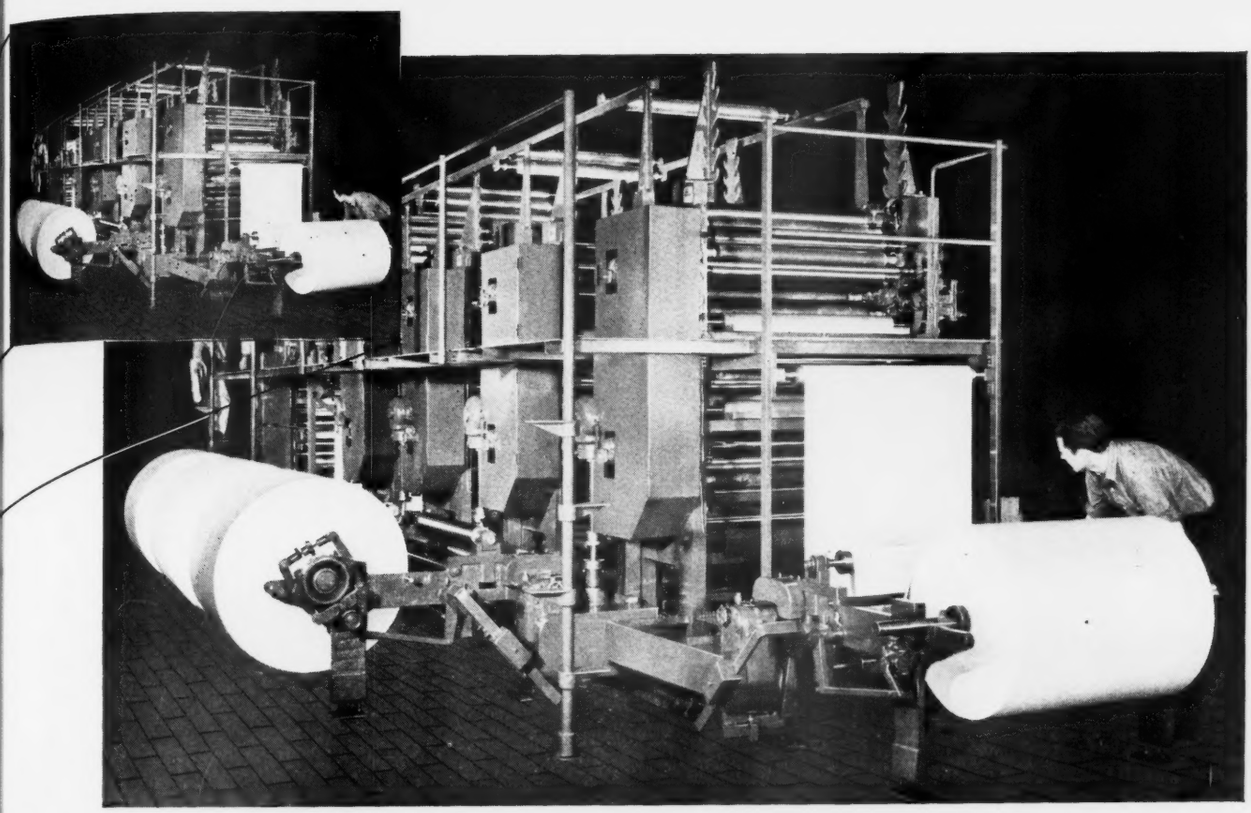


Here's
produ
four-u
speed
ered t

It's
print
black
at the
or ma

Its
fold
azine

Pr
on
are



er gets ATF-Webendorfer Offset Press

to Print Reader's Digest

Here's the fourth in a series of presses built for printers producing foreign editions of The Reader's Digest. This four-unit, four-color press, printing a 35-inch web at speeds exceeding 400 feet a minute, recently was delivered to Sanoma Oy, Helsinki, Finland.

It's a versatile press designed so it can be arranged to print four colors on each side of the web; or to print black on each side of four separate webs, collecting them at the folder to produce a newspaper size, tabloid size or magazine product, or a magazine product two-up.

Its capacity is from 12,000 to 14,000 double parallel fold signatures per hour, when printing digest size magazine products two-up.

Printing on standard offset stocks up to 60-pound and on machine coated papers, special quick-drying inks are utilized with a Dryer Electric Unitron drying unit. After the web passes through the dryer it runs over water cooled chilling rollers to the folder. A Reliance variable speed converting unit converts AC power to DC for smooth acceleration and operation. The press, weighing 35 tons, is 45 feet long, 12 feet wide, 10 feet high.

Previous presses for printers producing The Reader's Digest include two two-unit presses, one of which was installed in the Litografica Ypiranga plant at Sao Paulo, Brazil, and the other in the Editorial Omega plant, Havana, Cuba. A third press, in operation at the plant of Guillermo Kraft Limitada, Buenos Aires, is built for a 48-inch web, has four printing units, and delivers a 96-page signature with four colors on each side of the web.

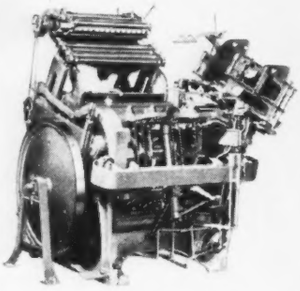
All of these presses are continuing to add to the ATF-Webendorfer reputation for the delivery of high quality products at exceptionally low costs.

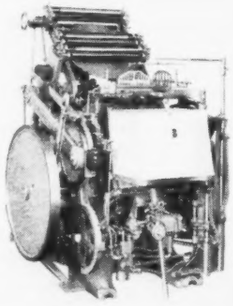
An ATF Associate

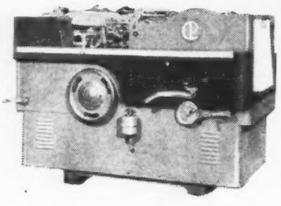
AMERICAN TYPE FOUNDERS
Webendorfer Division

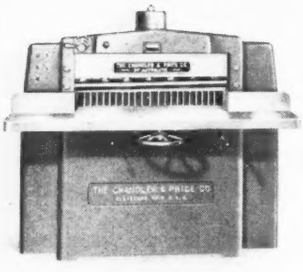
2 South Street, Mt. Vernon, N. Y.

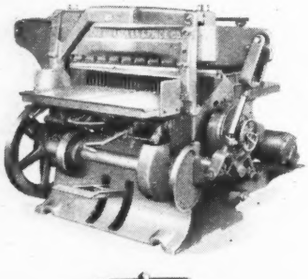
Protect Your Profits with Chandler & Price Equipment

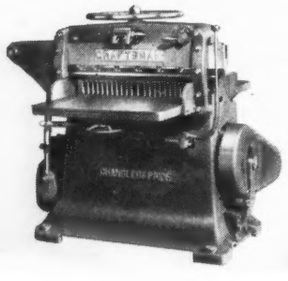












ARE *You* CONSIDERING A NEW PRESS ?

●Compare Chandler & Price Automatic Units 12 x 18 and 10 x 15 point by point with your requirements and you'll say as hundreds of printers have said "That's the press for me."

These fully automatic presses provide complete versatility in printing any sheet from onion skin to thick blotting and other bulky stocks. They also handle automatic feeding for certain types of cut-out novelties, cartons and similar work that otherwise would have to be hand fed at a much higher labor cost.

Sheet sizes from No. 88 card up to the press capacity—13″ x 19″ on the 12 x 18 and 11″ x 15½″ on the 10 x 15—can be fed automatically to close register. Owners of Chandler & Price Craftsman Automatic Units are able to handle profitably and quickly a very large part of the sizes and variety of work that comes into the average job printing plant.

Write for the Craftsman Automatic Press Booklet. Twenty minutes reading time will give you a valuable understanding of how C&P units can make money for you.

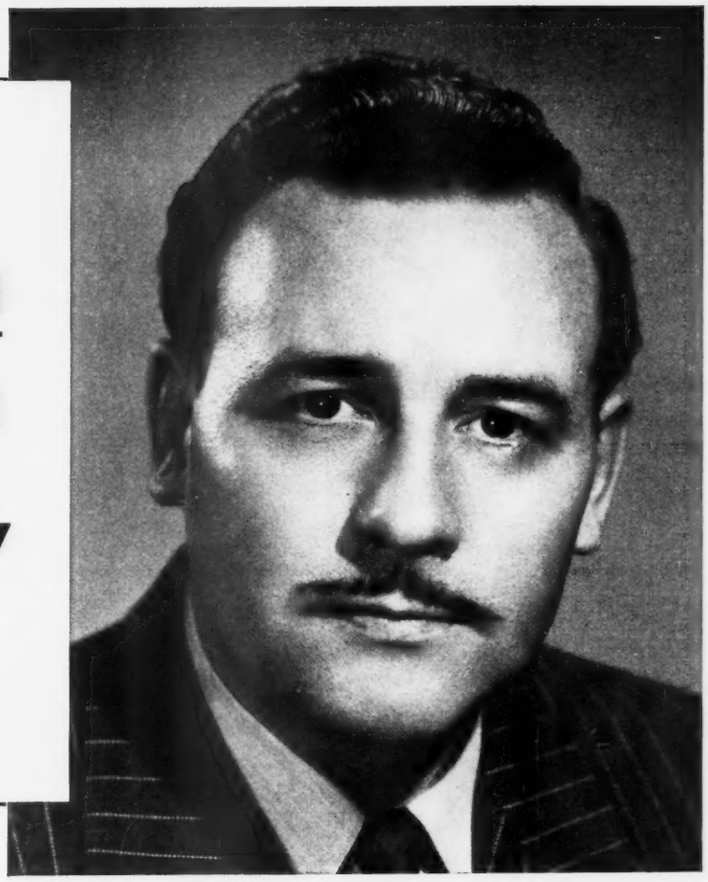
THE CHANDLER & PRICE COMPANY

6000 CARNEGIE AVE. • CLEVELAND 3, OHIO

Where American workmen have been building printing machinery for American printers for nearly three quarters of a century

"In my book an Ansco man is a Salesman and Specialist, both!"

Says Mr. Irving Olson
O'DAL LITHOGRAPHERS
Los Angeles, Cal.



You, too, can profit the way O'Dal Lithographers have. Next time your Ansco Man calls, ask him how these REPROLITH ORTHO THIN BASE FILM features will work to your advantage.

• • •

• **APPLICATIONS.** Especially suitable for overlays, strip-ins and for cases where images are to be reversed.

• **MAXIMUM CONTRAST.** High density and extreme clarity mean coal blacks and window-clear whites.

• **HIGH ORTHOCHROMATIC SENSITIVITY.** Higher sensitivity and use of filters permit better copies—eliminate much handwork on negatives.

• **HIGH SPEED.** Shorter exposure times.

• **PIN-POINT SHADOW DOTS.** Dot edges come up needle-sharp in shadows.

• **UNIFORM QUALITY.** You can depend upon Reprolith Ortho Thin Base. It will minimize make-overs and reduce production costs.

IN THE GRAPHIC FIELD IT'S ANSCO

FOR BEST RESULTS, develop in Ansco Reprodol—laboratory-packaged for your protection.

Let your Ansco Representative explain how **REPROLITH ORTHO THIN BASE FILM** can improve *your* shop operation.

Ansco, Binghamton, New York. A Division of General Aniline & Film Corporation. *"From Research to Reality."*

buys a 40 Page COSMOPOLITAN PRESS!

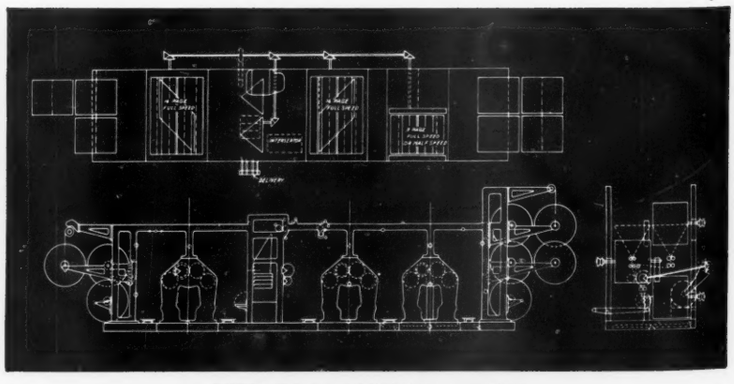
buys a 40 Page COSMOPOLITAN PRESS!

TWO 40-page WOOD Cosmopolitan Presses, soon to be installed in the plants of the St. Thomas Times-Journal and the Stratford Beacon-Herald, will bring "big city" advantages and "big city" economy to these two newspapers.

2-page jumps on collect runs,* semi-cylindrical printing quality, one or more colors when desired, plus automatic tensions and electric paper hoists will give these two prominent Canadian newspapers the finest printing plant equipment money can buy . . . and more!

With the purchase of WOOD equipment they are assured of the soundest investment any publisher can make!

*The patented Intrasertor permits 2-page jumps on collect runs in a standard-size newspaper, or 4-page jumps in a newspaper of tabloid size.



WRITE TODAY FOR FURTHER INFORMATION

IF IT'S Wood IT'S GOOD

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17

Get better printing at lower cost with "SPHEREKOTE" Drawsheets and Blankets

You'll save press time—labor costs—and newsprint when you use tough, resilient "SPHEREKOTE" Drawsheets or Blankets. They have a hard glass-bead surface that gives long, trouble-free runs. And you get *clean impressions* that eliminate press stops for re-plating to favor cut positions.

Over 1600 newspapers have reduced production costs—in a period of rising prices—by switching to these better, longer-lasting newspaper draws and blankets! They're getting better printing, too—by greatly reducing first-impression offset, ink transfer, smudging and double printing.

For clean, sharp impressions—and real production savings—let us put "SPHEREKOTE" Newspaper Drawsheets or Blankets on *your* presses. Fill out the coupon below for sample swatches and complete information on how to beat rising production costs.

WRITE TODAY FOR COMPLETE INFORMATION!

Minnesota Mining & Mfg. Co.
Dept. PcE31, St. Paul 6, Minn.

Send Swatches and Price List ☐
Have Representative call ☐

Name.....

Company.....

Address.....

City.....Zone...State.....

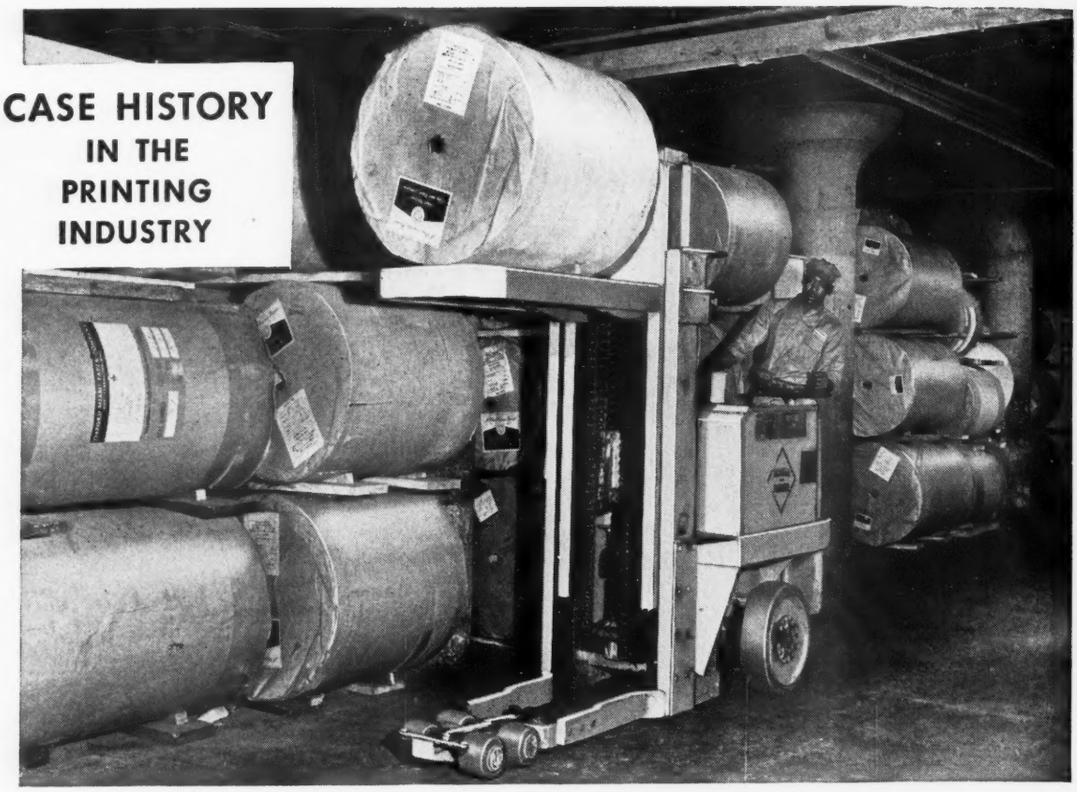
"SPHEREKOTE" Drawsheets, Blankets cut costs all over the plant	
Make-up	More preferred positions for cuts and advertising. Make-up moves faster, with fewer interruptions. Allows tighter papers.
Stereotype	No last-minute re-casts to re-position ads or cuts which are picking up first-impression offset.
Press room	Fewer press stops for replating; no waste copies from first-impression offset.
Maintenance	Press packing with "SPHEREKOTE" Drawsheets in many cases lasts up to three times longer!

Ask for "SPHEREKOTE" brand DRAWSHEETS—BLANKETS

REG. U.S. PAT. OFF.
SPHEREKOTE
BRAND
NEWSPAPER DRAWSHEETS and BLANKETS

Made in U.S.A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn., also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-Slip Surfacing, "3M" Abrasives, "3M" Adhesives, "Spherekote" Tympans and Friskets.

CASE HISTORY IN THE PRINTING INDUSTRY



Power Trucks Increase Production 25%

Safe, Speedy Materials Handling with less men per ton handled, plus 50% greater use of storage space, explains why publisher says trucks "are worth their weight in gold."

JOBS TRUCKS DO:

Handling of all materials used in a modern publishing house indicates versatility of Elwell-Parker trucks. Loads include: 1. Paper rolls weighing up to 2300 lbs. 2. Flat stock, binder boards, ink, etc.—all handled on skids in Master Unit Loads weighing up to 5000 lbs. 3. Ton loads of waste paper.

TRUCKS USED

After investigating many makes of trucks, two Elwell-Parker ELN6T High Lift trucks were selected as best for the job. . . . This purchase was a good example of the fact that High Lift trucks offer advantages over the more publicized fork type. High Lift models weigh much less because the load is *over* the wheel base—this permits greater tonnages of pay load on floor storage area. High Lift trucks also cost less than comparable fork models, yet are well suited to high stacking.

ADVANTAGES GAINED:

1. ***Faster production*** — Besides freeing 3 men for other duties, mechanized handling has upped production 25%.
2. ***Higher Stacking*** — Elwell-Parkers easily tier the large rolls 3 or 4 high — two were the limit when done manually.
3. ***Safety for Men and Materials*** — Hazardous and laborious lifting operations have been eliminated, while damage to paper is minimized.

The precision control and easy operation of Elwell-Parkers show to great advantage in narrow aisles like this.

FREE BULLETIN on Handling Paper Rolls. Write for E-P Reporter No. 8 describing the new roll clamp that high stacks rolls horizontally or vertically, without pallets and without damage to stock. The Elwell-Parker Electric Co., 4194 St. Clair Avenue, Cleveland 3, Ohio.

ELWELL-PARKER
POWER INDUSTRIAL TRUCKS
Established 1893

When HIGH QUALITY PLATES ARE DEMANDED

YOU, TOO, NEED

STRONG GRAFARC

Fully Automatic High Intensity ARC LAMPS

IN YOUR PLATE MAKING DEPARTMENT

- Cut exposure time in half
- Assure sharper dots
- Eliminate dot undercutting by crossover of reflected light rays

IN YOUR CAMERA GALLERY

- Uniform illumination on work of any size
- Extreme steadiness of light volume
- Constant color temperatures
- Eliminate illumination variable in accurate control of densities
- Power to punch through dense kodachromes

ON STEP AND REPEAT MACHINES

- Precise control of intensity for accurate repeats.

Silvered glass reflector results in approximately twice the light per arc watt with metal reflector. Models for all photo-mechanical reproduction processes. Adapters to fit most cameras and photocomposing machines. Present line supply wiring is usually adequate.

COLOR AD Engraving Co.
2113 OLIVE STREET • ST. LOUIS 3, MISSOURI • CEntral 1333

January 9, 1951.

Mr. A.J. Hatch
The Strong Electric Corporation
87 City Park Avenue
Toledo 2, Ohio

Dear Mr. Hatch:

After testing your lamps on one of our cameras for some time under all possible conditions, we have installed Grafarc lamps on our other camera. We also replaced our printing lamp with a Grafarc and the overall results have indeed been very gratifying.

Our clients demand the highest quality in photo engravings and the installations mentioned above have helped materially in our production of quality work.

Sincerely yours,
COLOR AD ENGRAVING CO.
Ray H. Schumann
Ray H. Schumann.

RHS/pb

USE COUPON NOW!

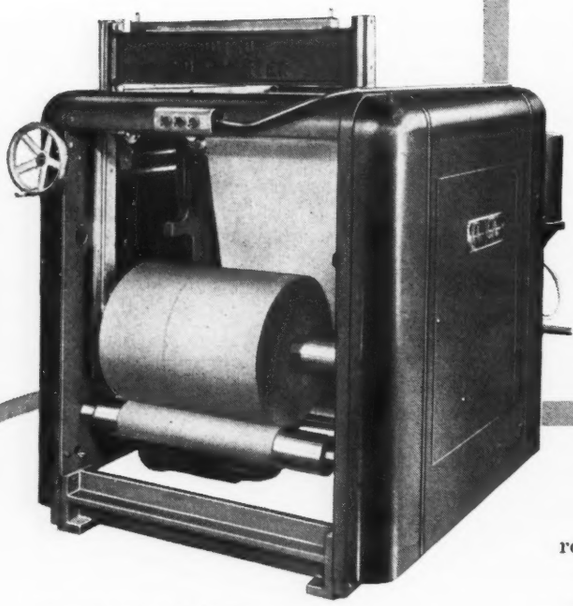
THE STRONG ELECTRIC CORPORATION
307 CITY PARK AVENUE **TOLEDO 2, OHIO**

Please send free literature, prices and name of nearest Grafarc dealer.

NAME _____
FIRM _____
STREET _____
CITY & STATE _____

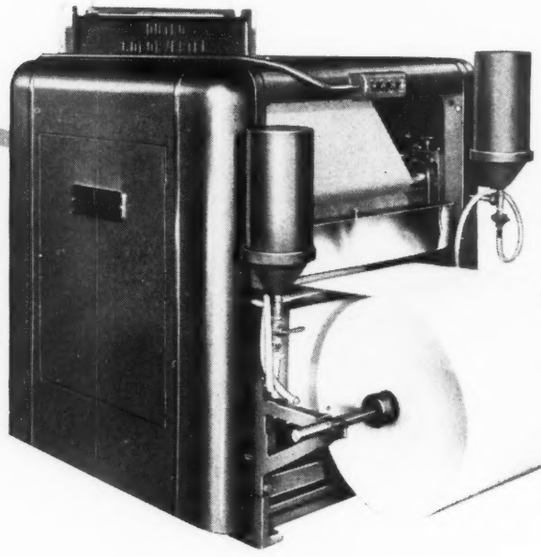
Color, Slit and Rewind

Roll-Paper Stocks In Your Own Plant



Rewind end of ColorVerter showing colored and slit stock being rewound into press rolls.

The Dutro ColorVerter overcomes inventory problems that have long been an obstacle to roll-paper printers. With ColorVerters in the plant, colored stocks in any web width or length can be prepared rapidly for particular manifolding and web printing jobs.



White roll stock being fed into ColorVerter. Note safety of enclosed construction of machine.

Here are some of the advantages a ColorVerter will bring to your plant:

1. Reduce cost and overhead because you can buy your entire roll-paper stock in white. This means you purchase only a few weights of stock in maximum quantity for lowest price. You also reduce your inventory investment and save storage space.

2. You speed up production and save press time because the ColorVerter gives you the right color and size stock for each job without delay.

3. Paper loss is reduced because your dropped or damaged rolls can be trimmed and rewound into usable press rolls quickly and easily.

ColorVerters will color either or both sides of the web at once. Two different colors can be applied in one run. They will handle a range of stock weights from 9 lb. bond to 34 lb. ledger. Maximum web speed is 400 ft./minute. ColorVerters can also be used to slit and rewind only. Standard machines have a minimum slit width of 2" and will take 32" dia. rolls up to 31" wide.

ColorVerters are manufactured for Orville Dutro & Son, Inc. in the modern facilities of Western Gear Works, oldest and largest manufacturer of gear products in the West.

MANUFACTURED BY

5140

WESTERN GEAR WORKS

Manufacturers of **PACIFIC-WESTERN** Gear Products

Pacific Gear & Tool Works

Plants at:
Seattle
San Francisco
Lynwood
(Los Angeles County)
Houston
Representatives:
Portland
Denver

SOLD EXCLUSIVELY BY

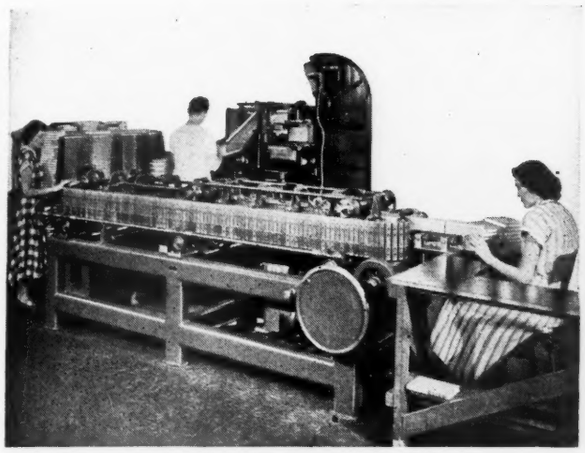
ORVILLE DUTRO & SON, Inc.

1206 MAPLE AVENUE • LOS ANGELES 15, CALIF.

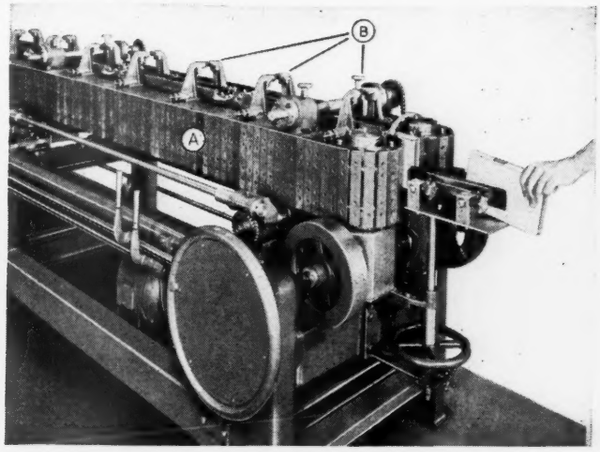
• SPEED FLEX PRESS • SPEED FLEX SLITTER AND REWINDE

Building in Hard-Cased Books
at up to Two Thousand an hour!

The Dexter-de Florez Building-in Machine



Girl feeds books fresh from casing-in machine (in background) to compression belts. Parallel nippers, heated under thermostatic control and adjustable for pressure, iron hinges as book moves along.



Completed books emerge from machine ready for inspection and jacketing. (A) Compression belts (B) Heated nippers.

Using the conventional method, eight to ten hours is a fair estimate of the time required to build in each batch of hard-cased books. It takes that long for paste to set and hinges to be formed.

To this you must add the time and labor cost for stacking and unstacking, and the investment in boards and their maintenance.

The Dexter-de Florez Building-in Machine delivers the finished books in steady stream, all ready for inspection and jacketing, about eight seconds after they are fed into its compression belts.

It has a potential of about 2,000 books an hour — to pace the standard casing-in machine. It delivers uniformly creased hinges with paste set into the joints.

Books may be of any bulk, including case, from 5/16 to 2-13/16"; from 4 to 8" in width — and of any desired length.

How much should this machine, designed by de Florez and built by Dexter, step up *your* production — and what should it realize for *you* in plant economies?

We'll be glad to discuss its application to your needs.

Dexter • Christensen • McCain

Modern Machines for Printers and Binders

Dexter Folder Company, General Sales Offices, 330 West 42nd Street, New York 18, N. Y.

Associated with the de Florez Company for Special Engineering

Branch Offices, Domestic and Foreign Agents

Four darn good reasons

WHY YOU SHOULD INSTALL MATRIX SERVICE

Read 'em and Reap

1.

Publishers and printers now realize more than ever the added value of Matrix Contrast Service due to their greatly increased operating costs. The reduction of approximately one-third of all errors in linecasting machine operation means valuable minutes saved . . . and a yearly dollar saving far in excess of the moderate yearly charge for Matrix Contrast Service.

2.

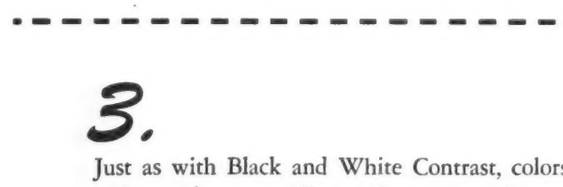
With Matrix Contrast Service, typesetting machine errors stand out like a sore thumb . . . before the line is cast. Sharp, clear-cut Black & White reference marks have a visibility equivalent to 9 point type as compared to 3½ point for used untreated matrices. Matrix Contrast Service, therefore, reduces eye-fatigue, conserves energy and promotes increased production.

3.

Just as with Black and White Contrast, colors such as red, green, yellow and orange can be applied to old as well as new matrices . . . against the same jet black background. Matrix Contrast Colors aid operators in the detection of "wrong fonts" and insure the positive selection of matrices from "pi" stackers or trays.

4.

There's a Matrix Contrast Service Branch near you! With six service branches located in Boston, New York, Chicago, St. Louis, San Francisco and Los Angeles, we can process your matrices in Black and White and Colors now, and give immediate attention to processing all sorts and new matrices you purchase in the future.



There are many other reasons, too. Write today for latest facts on *savings for you* through use of Matrix Contrast Service . . . no obligation, of course. MATRIX CONTRAST CORPORATION, 154 West 14th St., New York 11, N. Y. — 326 W. Madison Street, Chicago 6, Ill. — 1105 Trenton Street, Los Angeles 15, Calif. — Sole licensees of the Percy L. Hill Matrix Contrast Patent No. 1,796,023, other patent pending. European Agents: Funditor, Ltd., 3 Woodbridge Street, Clerkenwell Green, London, E. C. 1.

Copyright 1950, Matrix Contrast Corporation

MATRIX CONTRAST SERVICE

PRINTING
EQUIPMENT
Engineer
March 1951

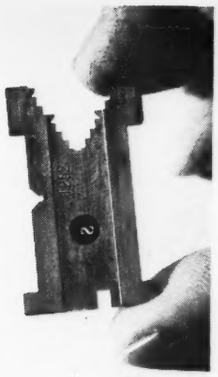


Fig. 1.—Life size reproduction of a Fotosetter matrix. The capital letter *S* is embedded in negative film form in the matrix body. The V notch at left side is aligning point when matrix is positioned for alignment before the camera lens.

Justification

on Intertype's Fotosetter Machine explained—Incremental additions to matrix setwidth utilized in justifying lines by revolutionary method

THIS article is intended as a description of the principle of matrix line justification on the Intertype Fotosetter machine with respect to straight line composition only. The magazine, matrix assembling and distributing mechanisms as employed on hot-metal Intertypes also are employed on the Fotosetter and are familiar to our readers. No attempt will be made to describe them. The automatic photographic devices on the Fotosetter also will not be included.

Two important differences between the Intertype Fotosetter Machine and the slug-casting machine must be understood before approaching Fotosetter justification as follows: (1) The Fotosetter operates on the letter-by-letter principle of exposing characters individually on film, rather than on the line-by-line principle used in casting slugs; and (2) Spacebands are used in the slug-casting machine to create the space between words and to justify the line, but on the Fotosetter blank matrices are used for word spaces and justification is accomplished by means of a simple inclined plane and wedge principle just before each letter character is exposed individually to the film. The justifying device automatically distributes the amount of space required for justification throughout the entire line, between characters, if necessary, as well as between words.

This method is a convenience, for example, when setting short measures. In cases where objectionable breaks at the ends of lines ordinarily would require the insertion of letter spaces, the Fotosetter justifier performs this operation automatically.

Similarly, in book work, the compositor is occasionally required to insert hair spaces between letters in lines where the permissible limit of spacing between words is exceeded. The Fotosetter justifier eliminates the thin-spacing operation.

Revolutionary Justification Mechanism

The Fotosetter method of line justification is revolutionary. It is employed both to justify the line by individual letter characters by mechanical means, and, simultaneously, these setwidth measurements are transmitted mechanically to the sensitized film upon which the characters composing the line are exposed. While this article deals only with the usual underset matrix lines, it is possible also, on the Fotosetter, to justify lines of exact length if they should happen to be composed in rare instances.

Thus, the mechanism in the justifying apparatus automatically expands the

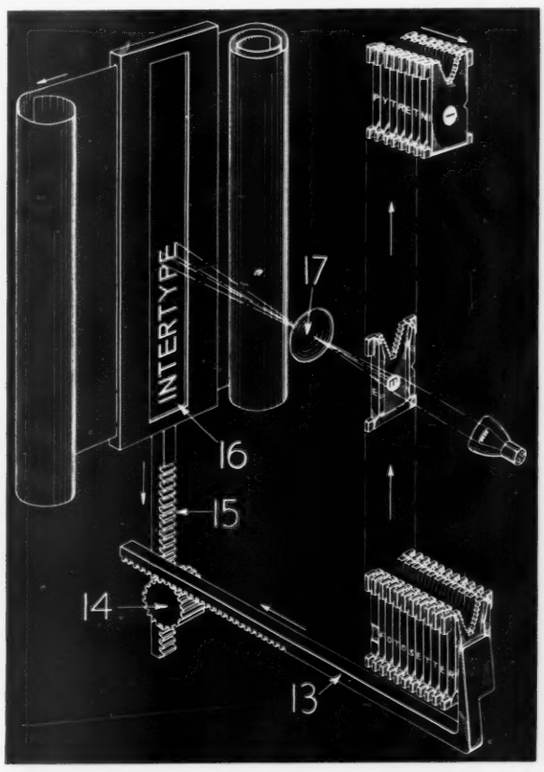


Fig. 2.—This diagram is illustrative of the Fotosetter letter-by-letter principle of exposure to the sensitized film. When the matrix line is conveyed to the camera by the delivery slide, horizontal feed rack *13*, under constant spring pressure, urges the line to the left. As each matrix is displaced from the line, the remaining portion of the line is moved leftward instantly. The "hook" at the right end of feed rack *13* is shown in modified form merely for illustrative purposes. As each matrix is elevated to a position before lens *17*, feed rack *13* moves leftwise the setwidth thickness of the matrix. Movement of rack *13* is transmitted to gear train *14* to vertical rack *15* and in turn, film carriage *16* drops a distance equal to or proportionate to the setwise thickness of the matrix just lifted vertically from the line.

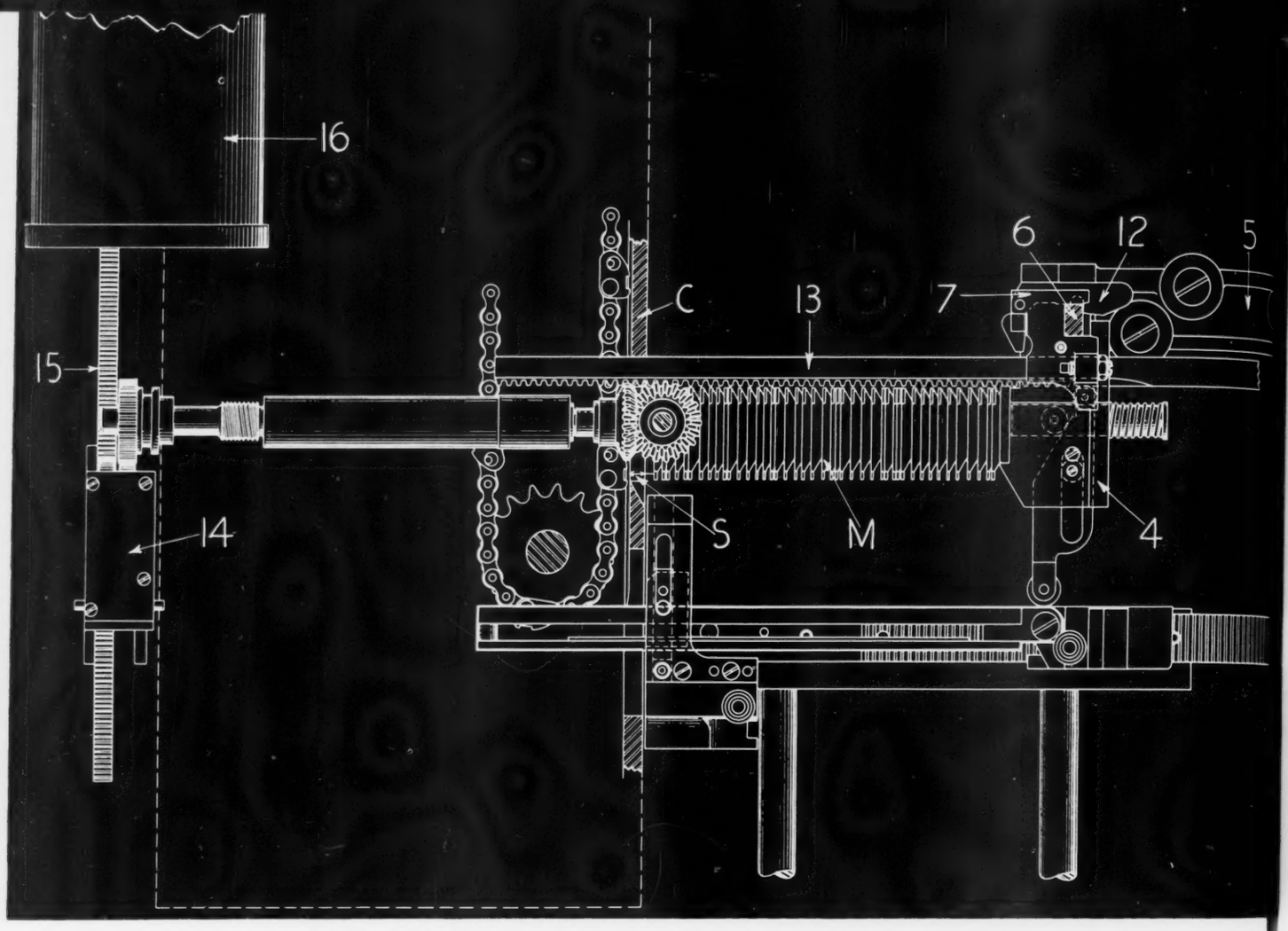


Fig. 3.—Here is shown the Fotosetter line follower *4* which is a part of delivery slide *5*. (The slide and its component parts serve the same purpose as the delivery slide on hot metal Intertypes but it will be noticed there is no left-hand or long finger; the right hand finger, as shown here at *4*, has been converted into a line follower.) Line follower *4*, is shown immediately after having delivered a matrix line to a position opposite the camera but before justification action has taken place. At this moment, line follower *4* is locked rigidly to feed rack *13*, so that, to all intents and purposes, the two move as one mechanical unit as the matrices are displaced from the left-end of the line. The justification control rail at the lower part of this figure is in normal position.

usually underset matrix line to the pre-determined line measure. When all of the matrices have been presented individually before the camera lens the space lacking to fill out the line to the pre-determined pica measure will have been distributed among each of the matrices and the fractional part of the underset space will have been added by increments to each character and word space.

Matrices Exposed Separately

On the Intertype Fotosetter, each letter character is exposed in the camera device to the sensitized film individually at the rate of 8 characters per sec., including the matrix-shaped word spaces.

The Fotosetter matrix (Fotomat), Fig. 1, bears a singlemaster character in negative form. The letter character is embedded in the matrix body. The letter characters may be enlarged or reduced automatically in the camera mechanism by means of eight lenses carried in a turret. The proper lens is selected by the operator according to the enlarged or reduced point size required before proceeding with composition.

Similar Functions

Inasmuch as the principle of keyboard manipulation and matrix assembly is similar to that of the Intertype hot-metal line-composing machine, this discussion will commence with the delivery of the assembled matrix line to the delivery slide when the operator raises the elevator to the delivery slide.

Getting Ready to Operate

The lines which can be composed on the Fotosetter (for illustrative purposes) may range by half-picas from 4 to 42 picas. Before the operator commences composition he sets the line length in the assembler and justification mechanisms, line spacing for the film (between-line spacing), selects the proper camera lens, and proper gear for point size of type.

Letter-by-Letter Exposure

In Fig. 2 is shown a diagrammatic representation of the letter-by-letter principle. When the line of matrices is delivered to the camera, a horizontal feed rack *13* follows up the matrices. This rack, through connection with a spring-actuated delivery slide, exerts a continuous pressure against the matrices.

As each matrix is elevated from the left end of the line to position for exposure, rack *13* moves to the left. The rack moves a distance equal to the width of the matrix removed from the line.

This relative movement is transmitted to the vertical rack *15* through a gear train *14*. This permits the film carriage *16* to drop a distance equal to or proportionate with the thickness of the matrix removed. Thus, the basic amount of space necessary on the film for the width of the exposed letter is controlled by the thickness of the matrix itself.

Determining Exposed Line Length

In Fig. 3 is shown the line follower device in detail and the justification mechanism in normal position.

The line of matrices *M* has been conveyed to the delivery channel in line with the feed channel *C* of the camera. The line is delivered by the follower *4* fastened to the delivery slide *5*. Power for moving the slide is furnished by a spring-actuated delivery lever similar to that of the hot metal machine.

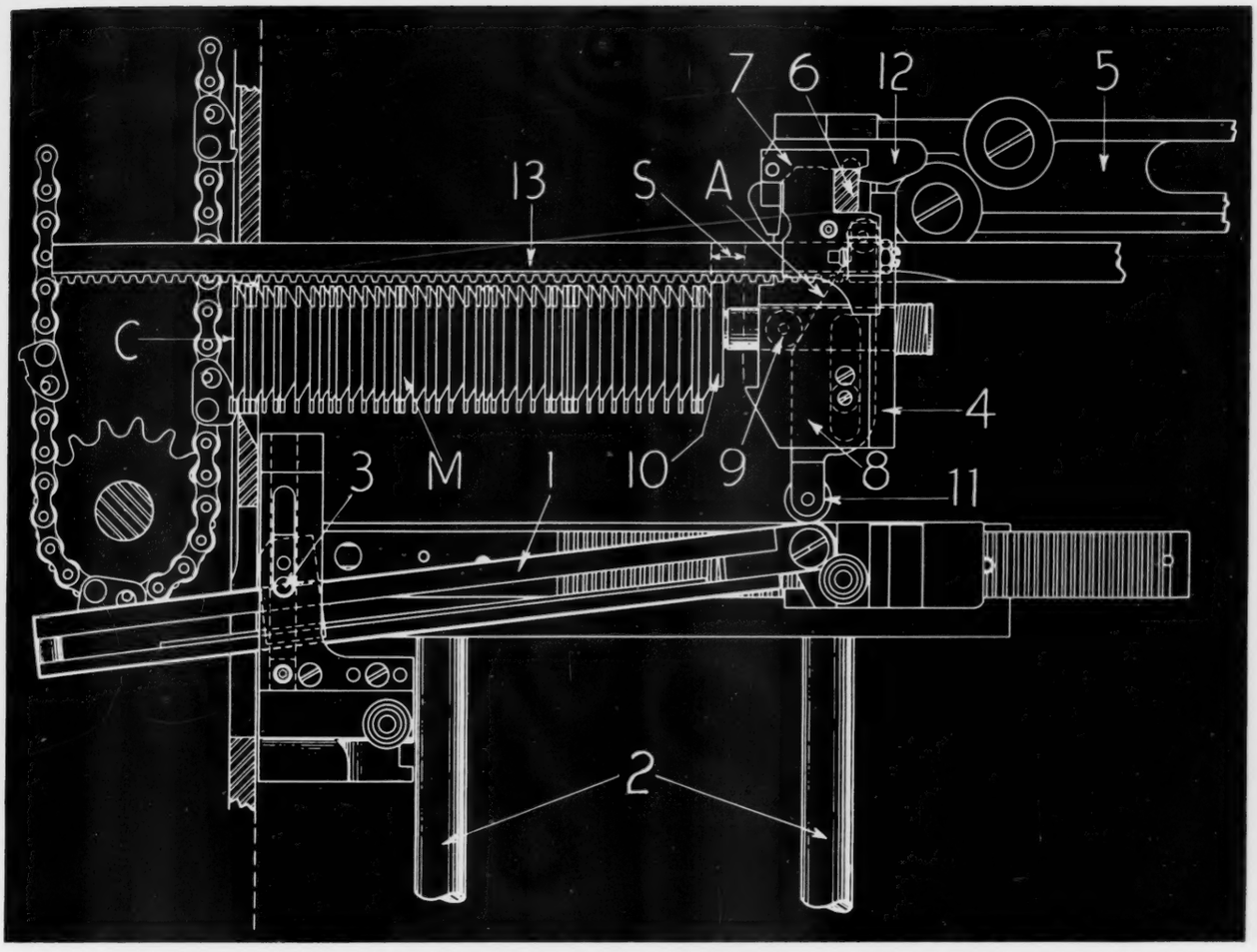


Fig. 4.—Fotosetter line justification mechanism with the same matrix line as shown in Fig. 3. The justification control rail *1* has been raised by rods *2*. In this action the matrix line has been compacted with its left side against channel *C*. When justification control rail *1* rises it contacts roller *11* in wedge *8*, forcing inclined surface A against roller *9* in the plunger, causing plunger head *10* to move leftwardly against the right side of the matrix line. The angle of rail *1* controls the distribution of the shortage indicated at *S*. As each matrix is lifted vertically into channel *C*, the line moves the thickness of the displaced matrix body to the left; simultaneously, the line follower *4* moves to the left; in moving to the left, the wedge *8* also lowers as permitted by distance traveled by roller *11* down inclined rail *1*. Thus, incremental addition to the thickness of the setwidth thickness of the matrix is added to the drop of film carriage *16* in Fig. 3.

Before justification can occur, follower *4* is first locked automatically to feed rack *13* at a point corresponding to the length of line being set (for example, 30 picas). The location at which the follower is locked to the rack is determined by an adjustable stop *7* slidably mounted on the rack. The stop *7* is moved along feed rack *13* by a screw as the operator sets the assembler slide for the desired length of line. When the measure is set on the slide, stop *7* is locked automatically at a corresponding setting with respect to rack *13*. This corresponds in function to the vise jaw setting of the hot metal machine.

When the matrix line is conveyed into the delivery channel, bar *6* on follower *4* moves into the recess in stop *7*. Latch *12*, pivoted on stop *7*, engages bar *6* and locks follower *4* in the correct setwise location with respect to feed rack *13* (say 30 picas). Note that the slack or shortage in the matrix line *M* is indicated at *S*. In assembling the line shown, the operator might have left 1½ picas for expansion.

Compressing Line to Measure Shortage

The justification mechanism now performs two actions simultaneously: It compresses the line of matrices to measure the shortage, while setting itself at an angle directly relative to that shortage so that it will be distributed equally over the entire matrix line. In this operation, the simple principle of the inclined plane and wedge is employed, as shown in the justification stroke in Fig. 4. The plane consists of a pivoted justification rail, *1*, and the wedge device *8*, Fig. 4.

In Fig. 4, the matrix line *M* has been compressed between the face of the camera feed channel *C* and the line follower *4* by outward drive of plunger *10*. This action is handled automatically as follows: The upward drive of rods *2* by cam action causes the right end of the justification control rail *1* to rise while its left end pivots on fulcrum *3*. The rail contacts roller *11* on wedge *8* and drives the wedge upward in its slot in follower *4*. The inclined surface *A* of the wedge operates against roller *9*, which is fastened to plunger *10*. Upward movement of wedge *8* causes plunger *10* to move to the left against the matrix line.

The relative stroke of the plunger *10*, of course, is dependent upon the amount of slack in the line as originally assembled. If a 28½ pica line were sent in for justification to 30 picas, for example, the plunger *10* would advance 1½ picas until the line is compressed against the feed channel *C*. If a longer line is sent in, say 29½ picas, the plunger would advance only ½ pica.

Now, to relate this action to the justification control rail *1*, it is apparent that the angle assumed by the rail is governed by the shortage in the matrix line. A line which is 1½ picas short, for example, will permit the rail to assume a relatively steep angle; a nearly full line will stop the rail at a relatively slight angle. Geometrically, therefore, the rail always assumes an angle directly proportional to the amount of slack left in the matrix line.

Removal of Matrices from Line

The matrices are now removed vertically from the line, one-by-one in succession, for exposure on the film. Referring again to Fig. 4, it is evident that follower *4* will move to the left in successive steps as the matrices are removed from the line. Since the horizontal feed rack *13* moves with the follower *4*, the successive advances are transmitted to the film carriage by the racks and gears described and illustrated previously in Fig. 3. These movements provide the basic amounts of space needed for the letters themselves.

Addition of Space Increments

The increments of space necessary for justification are simultaneously added by extra forward movements of follower *4*, Fig. 4, in relation to plunger *10* as the matrices are removed for exposure.

As follower *4* moves to the left each time a matrix is removed from the line, wedge *8* moves with it. Roller *11*, tracking down the inclined control rail *1*, permits a slight downward movement of wedge surface *A*. Line follower *4*, urged forward under constant pressure of delivery slide *5*, then moves forward until wedge surface *A* stops against roller *9*. This slight forward overmotion of follower *4* is transmitted to feed rack *13* and thence to the film carriage *16*, Fig. 3. Thus, each time a matrix is removed from the line, the distance *S* Fig. 4, is successively reduced until entirely consumed when the last matrix is removed from the line.

The additional space needed for justification is added each time a matrix is removed from the line. Each removal permits a slight additional advance of line follower *4*, Fig. 4, toward plunger *10*. The slack initially taken up by outward drive of the plunger is distributed in increments as wedge surface *A* descends and permits follower *4* to move toward the plunger with the removal of each matrix. When the last matrix is exposed, plunger *10* assumes its initial position with respect to follower *4*.

The increments of space added between the characters are very slight and imperceptible to the eye. They are essentially uniform throughout the entire line. The control rail *1*, Fig. 4 always assumes an angle directly proportional to the slack left in the matrix line. Since roller *11* tracks along the rail continuously, from the removal of the first matrix to the last, the justification increments are uniform throughout. Increments are added between words as well as between characters, of course, since the word spaces (blank matrices) operate the feed rack in the same manner as the character-bearing matrices.

In setting lines of various lengths, the operator should adhere, of course, to the reasonable limits of justification he would ordinarily follow on a slug machine. When setting short measures on a slug machine, for example, he usually inserts extra spaces between words in cases where a bad break occurs at the end of the line. It is often necessary, too, to letterspace one or more words to reduce the amount of justification required. In the case of the Fotosetter machine, the operator would similarly insert extra spaces only between words to reduce the required justification to a reasonable amount. However, he would not have to letterspace an individual word or two, because the justifier will automatically add small increments between every character in the line.

Exposure of the last matrix in the line automatically releases latch *12*, Fig. 4, from bar *6*, and the delivery lever then returns slide *5*, follower *4*, rack *13*, and related parts to normal position through cam action.

Refinements in Character Relationship

The space added to each matrix will vary somewhat according to the setwidth of the character. Thus, a lower case *i* matrix will not have as much incremental space added to its setwidth as will the thicker lower case *m* matrix. The difference in the increments added to the setwidth of each character is infinitesimal so far as human eyesight is concerned.

By way of illustration in discussing the incremental space added to each character, we might say that a thin matrix bearing a period character is 0.028 in. thick and the increment added to this thickness in some instances, might be of the order of 0.0001 in., but in the case of a wider setwidth matrix, such as a capital *W*, 0.110 in. thick, the added incremental space might be 0.0004 in. In any event, the incremental space added to each matrix is dependent entirely upon the slow or acute angular position of inclined rail *1* which position is governed entirely by the slack to be taken up in justification to expand the line to the predetermined line length. It is repeated that the slight difference in incremental additions to letter characters are not visible to the human eye and in no way distort the regularity of letter succession.

A further refinement to avoid any abnormal white space between the thicker letter characters such as *m* and *w* has been developed by Intertype Corporation. In the hot-metal Intertype matrix, there is a side wall clearance on each side of the matrix character. These side walls provide the necessary white space between letters for maximum sharpness in reproduction and legibility in printed form. On the Fotosetter matrix, the sidebearing of each letter character is established in relation to the width of the matrix body. This refinement is supplemented by making the matrix bodies on letters like m and w somewhat thinner than normal to reduce the incremental addition to the matrix width in the justification mechanism. Thus the differences in incremental additions to the wider letter characters are narrowed considerably and are more nearly the width of the increments added to average characters like lower case e.

Effect of New Equipment On the Printer's Future

(Abstract of address delivered by J. W. Rockefeller, jr., J. W. Rockefeller, Jr., and Associates, Consulting Engineers, New York, before the Syracuse (N. Y.) Club of Printing House Craftsmen, January 1951.)

FOUR years ago we stated that the general commercial printer might expect competition from two sources somewhat outside his own field. Such competition was expected from specialty printers equipped with highly specialized single purpose equipment and from the private printing departments of large printing consumer companies. During the intervening time, we have seen this competition come about. It now threatens to become more serious.

It is interesting to note that many of the exhibits at the recent Graphic Arts Exposition in Chicago were directed towards the specialty printer or towards the general commercial printer who plans to develop specialties. Such equipment included stock coloring machines, collating machines and many other machines designed for a single specific purpose.

At an exposition for the Graphic Arts Industries, one would hardly expect to encounter much equipment designed for the printer's customer. However, some such equipment was exhibited. Many machines not on view there have been introduced recently and have obtained a foothold with the printing consumer rather than with the printers themselves. Equipment of this type puts the consumer of printing in position to produce a substantial part of his form work more quickly and frequently at a lower cost than the average commercial printer whose overall cost must include a cost of selling increment which the printer consumer avoids.

Private Plant Competition

A few years ago, we were engaged by a large consumer of printed forms to advise him whether he should enlarge his own private plant which was producing approx. 50 per cent of his printed forms or whether he should continue to purchase these forms from an outside vendor. The single outside vendor supplying forms was considered a specialist in this line and his selling prices were lower than the average commercial printer in the vicinity.

Nevertheless, an analysis of costs indicated that exclusive of stock the print-

(*Continued on Page 62*)

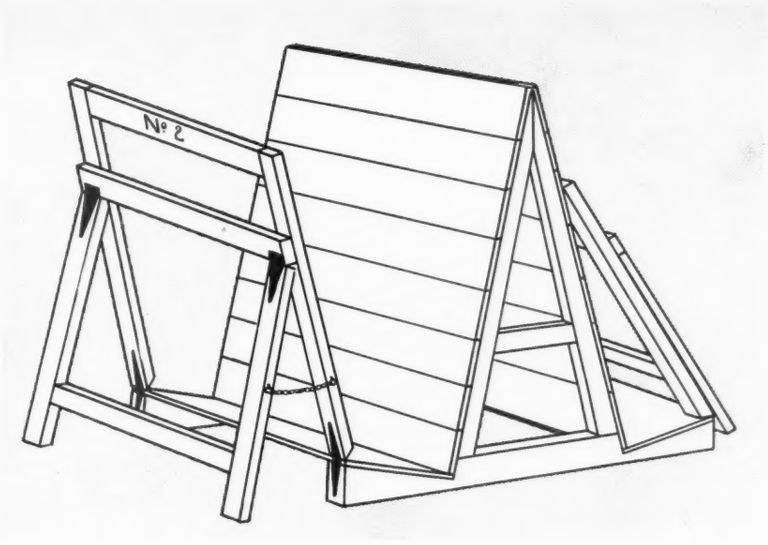


Fig. 1.

Storage of Offset-Lith Plates

By E. J. MARTIN*

*Supervisor, Lithographic Technical Foundation.

THE satisfactory storage of plates for future re-run is a problem that has plagued many lithographers for years. Few storage methods in general use appear to satisfy all requirements, that is, (1) Use of minimum space, (2) Easy accessibility, and (3) Adequate protection so that the printability of the plate is maintained over a period of years.

The Lithographic Technical Foundation has not done a great deal of specific research on storage methods, but it has seen and heard of many different systems. Here is a description of one that seems to have considerable merit.

First of all, when a plate is to be stored and may remain in storage for several years, it must be carefully prepared. Gumming and a wash-out are not adequate. One of the better procedures is described below.

Preparing the Plate for Storage

The steps involved in preparing a plate for storage are described in detail in LTF's Revised Instruction No. 801, *How To Make and Run Better Plates.* Briefly, these steps are as follows:

Before removing the plate from the press, (1) Lift the dampeners, let the image take a full charge of ink and then lift the form rollers, (2) Powder the ink to stiffen it, (3) apply gum smoothly and dry it thoroughly, (4) Wash out the ink with turpentine or non-toxic Lithotine, (5) Apply a *thin* film of asphaltum, rub it down smooth and fan it thoroughly dry. Remove the plate from the press, being careful not to let it touch the form rollers, and send it to the platemaking room.

Here the platemaker should treat the plate as follows:

(1) Wash off the asphaltum with a water sponge, (2) Wet-wash the plate, (3) Rub up the image, (4) Roll-up the plate with a leather covered roller so that there is plenty of roll-up ink on the image and the background is pulled out clean, (5) Fan the plate dry and inspect it to see if it is good enough to be stored. Usually whoever OK's a plate for the press should also OK it for storage. If the plate passes the inspection, (6) Powder the inked image, (7) Wash the plate off with water and clean out any spots, scratches, or other defects with a snake slip, (8) Apply etch and gum drying each thoroughly, (9) Wash out the roll-up ink, (10) Apply asphaltum rubbing it down until it is light tan and transparent and (11) Fan the plate thoroughly dry. The plate is now ready for storage. Plates treated in this manner will keep for many years if the storage conditions are satisfactory.

Storage Method

Satisfactory plate storage must meet these requirements: (1) Storage area must be dry, year-round; (2) Plates must be easily accessible; (3) Stored plates must occupy minimum space. The first item requires a room or area that is free from dampness and not too close to open windows or doors. Items (2) and (3) can be satisfied by the use of "A frame" racks like the one shown in Fig. 1.

These racks can be made to fit the size of your press plates. Plates are stacked in the rack face to back. Sets for multi-color jobs should, of course, be kept together. Plates can be piled on either side of the rack up to about 6 in. or 8 in. deep. To remove a plate that may be in the middle of the stack, the hinged frame that lies on top the pile is opened, and the plates on top the one desired are thrown back against it. A suggested record and identification system to locate a plate that has been in storage will be discussed later.

In order to prevent the bottom edge of the racked plates from bending as they are handled, it is a good idea to bend the back and gripper edges downward slightly over the edge of the roll-up table. Do this after the plate has been put under asphaltum and just before it is placed in the rack. The slight bends will keep the plate rigid when it is vertical in the rack.

Obviously, you should be sure that the face and back of each plate is absolutely dry when it is placed in the storage rack. Plates can usually be stored in such racks with no fear of air coming in contact with them except for about ½ to ¾ in. inward from the edges. As additional protection, two or three old plates can be kept on top of each stack.

If the work on your plates usually comes to the extreme edges, the construction of the racks might be modified to enclose the top and sides.

The Records System

The records system should do these things: (1) Identify each plate; (2) Permit it to be located quickly and easily at any time; and (3) Give information about the condition of the plates after the job was run. A records system that meets these requirements can be set up very simply. Only three forms are required.

The first form is a 3 in. by 5 in. identification ticket. This form is filled out as

	Name	Job No.	Colors	Remarks	Rack No.
○	Shirley Lyn Co	4276	6	Run 10 Repeat 2nd Run	2

Fig. 2.

soon as the washed-out plate is removed from the press and is stuck onto the face of the plate using the gumming solution for an adhesive. This ticket, or one like it, stays on or with the plate from the time it is taken off the press until it is put back on the press. A good location for the ticket is on the right side of the back edge, applied so that it reads right when the plate is stood on end. Try to avoid putting the ticket over an image.

As soon as the plate has been tagged, it is then taken to the plate room and put in a rack to await preparation for storage by the platemaker or rollup man. The appearance of the ticket is shown in Fig. 2. In all cases, of course, this form and others that follow can be modified to suit your individual requirements.

At the time the platemaker starts to prepare the plate for storage, the pressroom ticket can be removed with a wet sponge. The information on the ticket should then be transferred to a master record that shows all pertinent informa-

tion on the job and on the condition of the plates. This master record will probably be most convenient if it is set up as loose sheets in a ring binder. Enough pages should be provided so that each job can be listed alphabetically as it goes into storage. The record sheet should show such information as the name of the customer, job number, the number of colors for the job, remarks on the condition of the plates, and the number of the rack where the set of plates will be filed. The "remarks" should note the condition of the plates in the set, specifying those that were bad and which probably were regrained and not filed.

The recording of such data, obviously, can be most helpful in possible future cost estimates for re-runs. A typical form for the master record sheet is illustrated in Fig. 3.

The third form necessary in the system is a simple file tag for each set of plates. This can be a strip of adhesive tape or gummed paper that uses a non-drying Scotch tape type of adhesive about 2 in. wide. It should project about 2½ in. out from the edge of the plate when attached to it. These tags need be placed on only one plate of a set so long as you establish the practice of putting all plates of a set either behind or in front of the tagged plate. As each set of plates is placed on the rack, attach the tag a little lower than the tag on the previous set. This stagger arrangement, of course, makes it easier to spot any particular set of plates in the stack.

In Fig. 4 is shown a sketch of the tag used for each set of plates.

All of the plates in the set should be identified by the same kind of ticket used in the pressroom. If the ticket filled out by the pressman is legible and is put on the back of the plate, the platemaker need not remove it when he prepares the plate for storage. Usually, though, tickets from the pressroom are pretty dirty and the platemaker may want to transfer the filing information to a new ticket. After he has worked on the plate, he can attach the new ticket with gumming solution either on the face or back of the plate depending on the quantity of work on the plate.

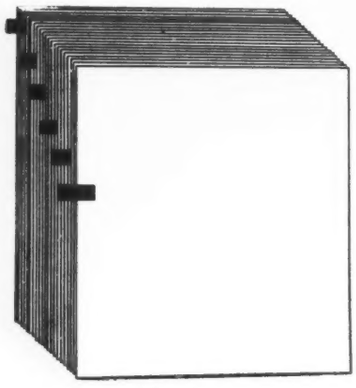


Fig. 4.

Name	Shirley Lane Co.
Job No.	4276
Color	Pink
Sheets Run	40,000
Condition	Sharp
No. of Colors	6

PRESSROOM TICKET

Fig. 3.

Conclusion

This system of storing plates and maintaining storage records has been in use by a Chicago lithographer for about 20 years. It appears to satisfy the requirements for a good storage method. The space required to store a large number of plates is very small and adequate protection under normal conditions is provided. The filing method that is suggested is simple, easy to use and provides useful information in estimating for possible future reruns.

Stuffing Machines

Used in mailroom of Minneapolis (Minn.) *Star* and *Tribune* for nearly a year — Mechanization brings marked improvement in production and distribution

AFTER nearly a year of service, the two stuffing machines installed in the Minneapolis (Minn.) *Star* and *Tribune* mailroom have proved their worth many times over. Dubbed the "Merry-go-round" by mailers when it first appeared, the machine (Fig. 1) is built by the T.W. & C.B. Sheridan Co.

Eight stations, or platforms, each 20 in. sq., are located around the circumference of each machine. The machine will handle a total of six sections, placed in any combination of these eight positions.

The rotating sections are 13 ft. diam. and the overall diameter of the machine is 17 ft., including the platforms.

The machine is driven by a 5 h.p. motor and is equipped with a magnetic brake (similar to a motor) which is employed to slow down and to stop the machine.

At the end of one revolution of the bucket conveyor each completely stuffed paper is delivered onto a straight-away horizontal conveyor, (Fig. 3).

Top speed of the machine is rated at 12,000 copies an hour, while average production runs about 10,000 copies an hour.

Forty-eight buckets in the revolving conveyor of the machine first receive the outside wrapper (which is the comic section in the case of the Minneapolis *Sunday Tribune*). This wrapper section is automatically held open V-wise in vertical position in the bucket. While the circular bucket conveyor of the machine rotates, other sections are automatically dropped into the opened section.

The wrapper or outside newspaper sections after being deposited in the buckets are opened by suction cups. A separate motor and vacuum pump are required for each machine. The pump is a 5x5x3½ compressor, is driven by a 3 h.p. motor, and supplies a 25 lb. vacuum.

What is called a "kicker," operated by a small motor, knocks one paper out of alignment to an angular position (Fig. 2) at pre-set intervals to facilitate hand

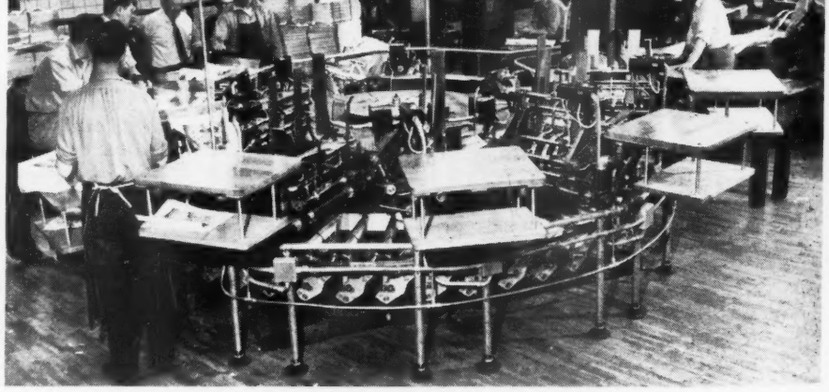


Fig. 1.—View of one of two Sheridan newspaper stuffing machines in use for nearly a year at the Minneapolis (Minn.) *Star* and *Tribune*. Top speed is rated at 12 thousand copies per hr., average sustained production is 10 thousand copies per hr.

Fig. 2.—One of the feeding stations. Here a mailer is placing a "take" of sections in the hopper. Under the hopper each bucket in the rotating conveyor passes. When each bucket in the rotating conveyor has made a complete revolution, the assembled sections are dropped onto a horizontal conveyor shown in the lower part of this illustration. Note spacing of assembled sections and the one kicked out of line.

counting of finished (stuffed) sections. The kicker may be set to angle one in 5, 10, 15, 25, 30, 40 or 50 papers for this purpose. When assembled sections are thick, the count is lowered, since the mailers still will stack the same-size bundles (containing, however, fewer sections) on the skids. Conversely, when the assembled sections are thin, more are needed to make the armfuls which are taken from the horizontal conveyor to be stored on the skids.

At each station (Fig. 2) a mailer feeds stacks of sections in a more or less upright position into the hopper. Each station is equipped with a start and stop switch—a red light flashes when a section has been missed, and a blue light flashes whenever two sections have been dropped into a bucket.

The lower part of the conveyor (Fig. 3) extending horizontally and tangentially from the rotating conveyor of the machine itself, originally was furnished without the curved extension shown in Fig. 3. At this time, the papers were delivered from the stuffing machine to the horizontal conveyor with the open end first. This made the picking up of sections somewhat difficult for the mailer. E. J. Christensen, Chief Machinist of the *Star* and *Tribune*, devised an extension to the conveyor so the papers would be delivered closed end first, and also raised them to a more comfortable mailer-handling height. This was accomplished by making a 180 deg. loop at the end of the low conveyor track which now heads the assembled sections back toward the stuffing machine. From the upper section of the horizontal conveyor the mailer now picks up the desired quantity of assembled sections and deposits them on the skids.

Indicating employee interest in the automatic stuffing equipment, an idea was submitted, among others, through the *Star* and *Tribune's* Suggestion System recently. It was recommended that a card be posted at each machine on which it would be stated: "Pile sections 12′ high," or "Pile sections 14′ high." By having the skids piled with bundles to the same height, and knowing the number of sections in each bundle, an accurate count may be made at any time by mentally counting the number of skids. The signs would be changed each week to coincide with the thickness of the paper and the kicker setting by which the number of sections in each assemblage is determined.

The stuffing machines are operated on both the day and night shifts throughout the week. Comics, Roto sections, and *This Week* magazines are assembled in advance. Then, on Saturday afternoon and evening, a large crew does the final stuffing of news, sports, society and classified sections by hand.

With more than 600,000 copies of the Minneapolis *Sunday Tribune* routed by truck, bus and train all over the four-state Upper Midwest area, the stuffing machines have brought a marked improvement to the production and distribution of this growing newspaper.

Materials Handling

Materials handling in the printing industry will be among the problems discussed at the Materials Handling Conference to be held concurrently with the National Materials Handling Exposition at the International Amphitheatre, Chicago, April 30 to May 4, inclusive. The conference will devote sessions to unit loading and packaging methods, fundamentals of materials handling, relationship of handling to other departments, and analysis of what constitutes materials handling costs. Another session will consider what can be done to reduce damage and speed handling in receiving and shipping methods. At the Exposition will be shown materials handling equipment especially suited to the printing industry in the 10 A. of exhibit area, both indoors and out. Admission to both the exposition and conference is free.

Opens New York Office

Howard Flint Ink Co. has announced the opening of a New York office to be supervised by G. A. Miller, New York Representative for the firm. The new office is located at 92 Liberty St., New York 6. Telephone is Beekman 3-6990.

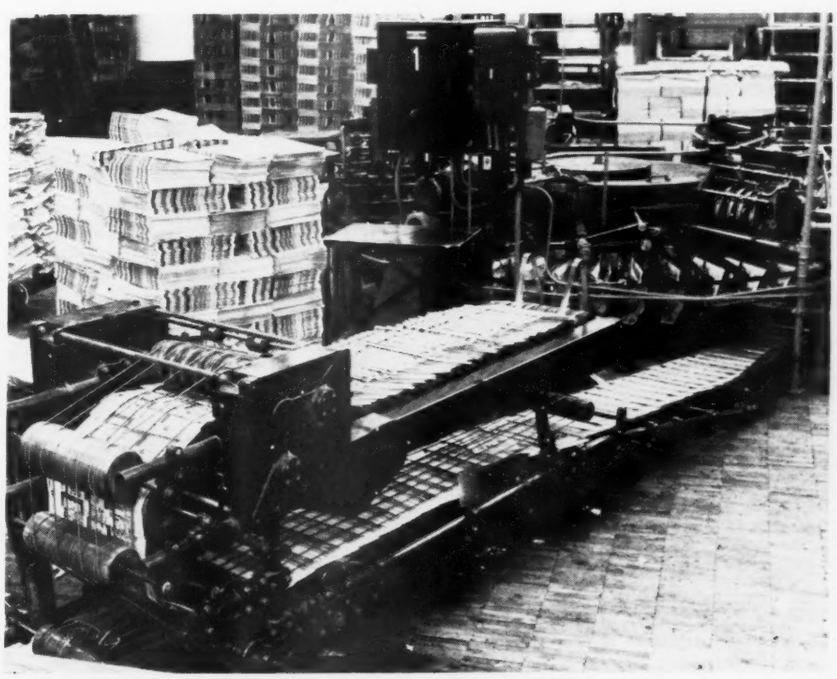


Fig. 3.—View of the horizontal delivery conveyor upon which the assembled sections are dropped. Note also that the assembled sections have their closed edges (folded edge) delivered first after reaching the upper section of the conveyor to facilitate mailer's grasp of a group of sections just before he stacks the group on the skid.

Expansion *of plant facilities, equipment modernization, work simplification, plus active management bring Massachusetts plant five-fold business volume in five years*

By STAFF WRITER

WITH printing plant operating costs steadily on the increase since 1945, executives have continually sought ways and means of keeping them down. Progressive executives have kept abreast of changing economic conditions by investigating increased production through new equipment installations plus sound plant management policies.

Expansion of some facilities also has been obtained by the construction of entire new plants, while in others careful study has been undertaken to revamp layout and workflow of the existing business. New equipment and supplies, work simplification measures, improved methods and procedures, materials handling, and the giving of more attention to personnel relationships, have been employed by progressive management in meeting stepped-up production goals.

An example of a medium-size commercial printing plant, the management of which has met and solved the problem of expansion and increased production can be found in the story of the Excelsior Printing Co. This firm, located in North Adams, a northwestern Massachusetts community, is typical of many throughout the United States which have obtained more production through modern equipment. In 1945, gross sales of the company were $64 thousand. Under Excelsior's resourceful General Manager William B. Roberts, the business grossed $310 thousand in 1950, approx. five times more during the past five year period.

The upping of business volume by five times in a five-year period must prove something. It is granted that energy, sales ability and good management are necessary requisites in the accomplishment of business growth. But a willingness to recognize equipment obsolescence and do something about it also enters primarily into successful business expansion in these days of stiffening competition. There is always a way in which a printing business can be expanded provided the market is available; also, it follows that if the market is available, management of any plant can overcome the equipment obsolescence problem. In this article, it is not our purpose to relate all the details connected with this plant's modernization program. However, we do want to tell you about some of the interesting items pertinent to equipment modernization and work simplification put into effect in the Excelsior plant.

Types of Work Executed

Under the supervision of Supt. Irving Rollins, 36 people are employed in the composing room, pressroom and bindery departments. The firm produces the variety of commercial printing available to a plant in a small New England town properly equipped to handle it. Advertising literature, catalogs, booklets, office forms, school bulletins, labels, town reports, etc., head the list of work turned out daily by Excelsior. Clients served by the firm are not confined to the Berkshire area, the county in which North Adams is located. Work is solicited by the company's salesmen in all the larger New England cities as well as the tri-city area of Albany, Schenectady and Troy, N. Y.

Expansion during the past five-year period has meant revamping the equipment layout on the ground floor of Excelsior's two-story and basement building. The business office, formerly partitioned off from the pressroom, has been moved to an adjoining building to make room for additional new presses. Additional space for paper storage also has been provided on the second floor by taking over space heretofore unused by the company.

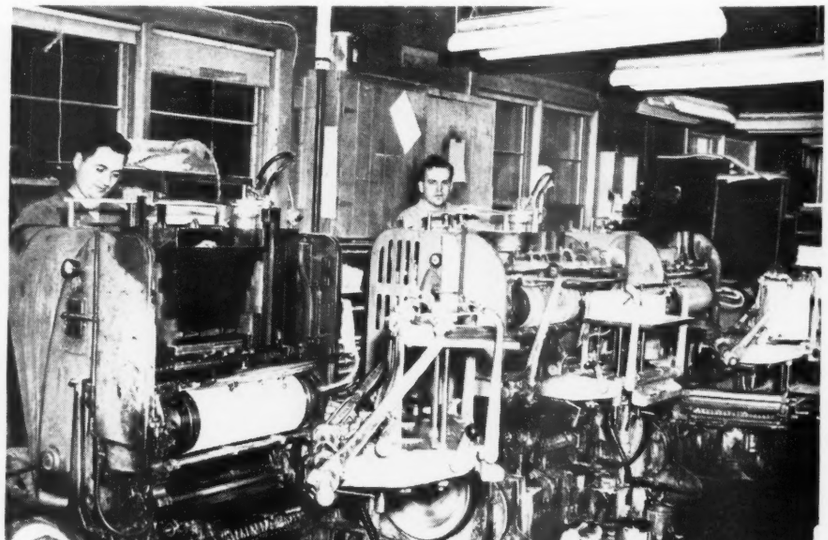
The Pressroom

In the pressroom, two 30-year-old Style B Kelly presses, a Babcock flatbed cylinder press and a Babcock Pony cylinder press were removed in the revision of the ground floor layout. In the bindery a 45-year-old Seybold-Holyoke paper cutter was replaced. All this equipment was found to be obsolete with respect to meeting the production requirements of increased post-war business.

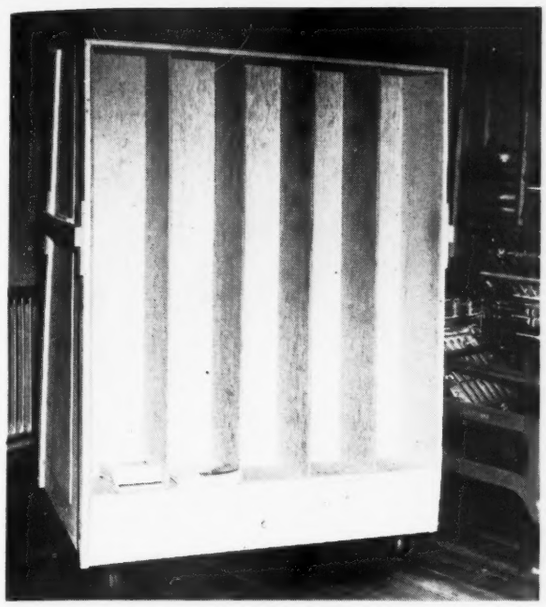
The pressroom now consists of a battery of six V-50 Miehle Vertical cylinder presses, a Miehle Horizontal high-speed cylinder press, one No. 2 and one No. 3 Kelly automatic cylinder presses, 10 in. by 15 in. and 12 in. by 18 in. Kluge automatic platen presses, and an 8 in. by 10 in. Chandler & Price hand-fed platen press. Each press is equipped with dry powder spray guns. In addition, a Craftsman Line-up Table has been installed in the department. Two Multiliths are employed on Navy work and are located in a fenced-off section of the pressroom in compliance with U. S. Navy regulations governing the production of such work.

Composing Room

The bulk of composition in the Excelsior plant is produced by Monotype. This equipment consists of two keyboards, two casters, and a Material Maker. The complete series of 20th Century and Kennerley recently was added to the Monotype department to widen the type face selection offered by the company. Recent addition to the composing room is a Vandercook No. 0 Proof Press.



Three of Excelsior Printing Co.'s battery of six V-50 Miehle Vertical cylinder presses are pictured above. These presses, which are a portion of Excelsior's equipment modernization program, partly replaced pressroom equipment determined obsolete during the 1945 to 1950 period. The layout of the presses shows the result of careful planning on the part of the company's management. The delivery end faces toward the windows permitting Pressman Bernard Perreault (left), and Stuart Daniels, to obtain accurate check on color jobs. Overhead fluorescent lights provide added illumination for working at the feeder, form or preparing the makeready.



One of the Bindery Signature Trucks in use at Excelsior Printing Co., North Adams, Mass., for easy movement and convenient storage of folded signatures. Both sides of the truck can be utilized for stacking the folded signatures as they come off the Cleveland folder. In operation, the truck is moved by means of ball-bearing swivel casters to the delivery end of the folding machine. The operator takes the signatures from the delivery and stacks them neatly in the bins provided by the truck.

The Bindery

In the bindery have been installed several new items of equipment. Included are a 40 in. Seybold paper cutter, 36 in. Seybold paper cutter, 25 in. by 38 in. MS Cleveland Folder, Rosback 24 in. Rotary Perforator, two No. 2 and one No. 7 Bostitch stitchers, Challenge Drilling and Round Cornering Machine, and an ATF Paper Jogger.

Bindery Signature Trucks

Bindery equipment has been amplified by the addition of two Bindery Signature Trucks for easy movement and convenient storage of folded signatures. Mr. Roberts had the trucks made from plans formulated after visiting a New York bindery. Both sides of each truck can be utilized for stacking the folded signatures as they come off the Cleveland Folder. In operation, the truck is moved by means of ball-bearing swivel casters to the delivery end of the folding machine. The operator takes the signatures from the delivery and stacks them neatly in the bins provided by the truck.

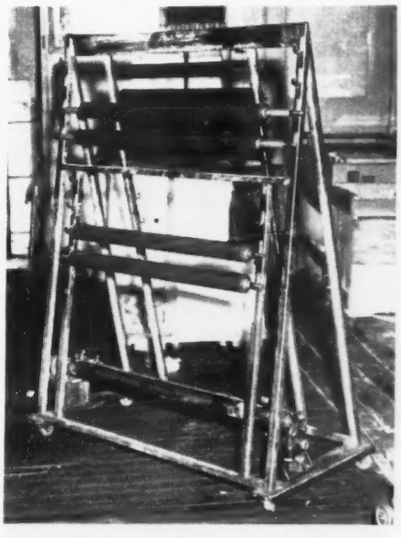
One of the trucks has been constructed to handle 8 1/2 in. by 11 in. and 7 1/4 in. by 10 1/2 in. folded signatures in five sections partitioned for each size on both sides. The other truck consists of seven sections on each side and is designed to accommodate 6 in. by 9 in. and 5 1/2 in. by 8 1/2 in. folded signatures.

Each section or bin has been made 1 in. wider than the folded signature itself. This allows the operator 1/2 in. "space tolerance" on each side of the stacked signatures when lifting them into or taking them out of the bin.

The trucks are constructed of 3/8 in. plywood and reinforced by 3/4 in. by 2 1/2 in. strips. Specifications: height from floor, 6 ft.; length of truck, 55 in.; height of base, 9 3/4 in. for extra strength in holding stacked signature. One truck measures 36 in. wide at the base and is angled to 18 1/2 in. width at the top; the other design for the larger signatures is 37 in. wide at the base, upwardly to 24 1/4 in. wide at the top. A handle extending the full width of the truck is located at each end.

Roller Washup Rack

A useful item in the Excelsior pressroom is a Roller Washup Rack designed under the supervision of Pressroom Foreman Guy Weston. Constructed for washing rollers from the plant's Miehle Horizontal and No. 2 Kelly cylinder presses, the pressmen like this work simplification device. Not only does the rack make roller washup easier, but it is a safeguard against damage to composition rollers when they are being washed and enables safe and convenient storage of rollers when not in use.



Roller Washup Rack employed in the pressroom of Excelsior Printing Co. for washing rollers from the plant's Miehle Horizontal and No. 2 Kelly cylinder presses. Constructed of steel channel frame and mounted on casters enabling movement to any location in the pressroom, the rack was designed to accommodate the Kelly rollers on one side and Miehle rollers on the other side. This feature permits washup of both presses at the same time with only one such rack. The side of the rack shown here will handle four form rollers and four distributors from the Kelly. The base of the rack serves as a convenient storage space for the auxiliary form unit for the No. 2 Kelly press when it is not being used.

The rack is mounted on casters enabling the pressmen to move it closer to or away from the press. This feature also permits washup of both presses at the same time. One side has been designed to accommodate the form and distributing rollers from the Horizontal, while the other side has similar accommodations for the Kelly press.

The overall height of the rack is 5 ft. by 27 in. wide at the base. Cross and vertical members are constructed of 2 in. wide steel channel frame. The rollers are placed on half round 1/2 in. steel hooks welded on the channel frame. The space allowed between each hook is twice the diameter of the roller from either the Kelly or Horizontal.

The side of the rack for rollers from the Kelly has accommodations for four form rollers and four distributors. The other side will handle a full set of rollers from the Horizontal, including an auxiliary roller. The base of the rack is large enough to serve as a storage place for the auxiliary form unit for the No. 2 Kelly press when it is not being used.

The hooks on which the roller rests when being washed are spaced 49 in. wide for the Kelly form rollers, 39 in. wide for the Kelly distributor rollers, and 30 in. wide for the Horizontal rollers. A 1/8 in. thick, 3 in. wide steel plate extends across the top of the rack. When rollers from both presses are being washed at the same time a sheet of thin cardboard is hung from this steel plate to avoid possible transfer of kerosene drippings from one pressman to the other.

Constructs New Plant

Construction of a new $3 million plant in Chicago for Mid-States Gummed Paper Co., a subsidiary of Minnesota Mining & Mfg. Co., was started recently. The plant is located on a 114 A. tract purchased by MMM, according to C. P. Pesek, Vice President in Charge of Engineering. Irving McHenry, Mid-States President, said the one story, 265 thousand sq. ft. building would include research facilities.

Social Security Booklet

Commodity Research Bureau, Inc., has published a 32 page booklet on Social Security benefits, designed for distribution by employers to their workers. Entitled *Your Social Security Benefits*, the booklet contains information concerning how much the worker and his family are entitled to collect under Social Security as well as how and where to collect. Other chapters are devoted to unemployment insurance, self employment, eligibility, survivors' benefits, old age and retirement benefits, and the Social Security account card which includes the 1950 changes in the Social Security Law. The Bureau has prepared a sliding scale of quantity prices for the booklet, based on the number of copies ordered by the employer. The price schedule and a free sample copy may be obtained by writing Commodity Research Bureau, Inc., 82 Beaver St., New York 5, N. Y.

New Chairmen for the SNPA (Western Div.) Newspaper Mechanical Conference — (Left to right) Ralph Moffett, Dallas (Tex.) *Times Herald*, new Chairman, and Fred R. Rice, Little Rock (Ark.) *Democrat*, Vice Chairman.

Western Div. *of SNPA holds mechanical conference in Dallas — Interesting and informative discussions give executives needed knowledge*

By STAFF WRITER

THE Western Division SNPA Mechanical Conference drew a registration of 343 newspaper mechanical and production executives, manufacturer and supplier representatives and a goodly number of wives and visitors. The conference was held at Hotel Baker, Dallas, Tex., Monday and Tuesday, January 29 and 30. The Western Division conference territory consists of the states of Texas, Oklahoma, Arkansas and the Western part of Louisiana.

Executive Committee Chairman George Woodman opened the conference on Monday morning, January 29. Mr. Woodman is Mechanical Supt. of the Fort Worth (Tex.) *Star-Telegram*.

Officers Elected

Ralph Moffett, Mechanical Supt., Dallas (Tex.) *Times-Herald*, was selected Chairman of the Executive Committee to succeed Mr. Woodman. Fred R. Rice, Mechanical Supt., Little Rock (Ark.) *Democrat*, was selected Vice Chairman.

Three new members of the Executive Committee were selected for three-year terms, as follows: J. Palmer Black jr., Mechanical Supt., Amarillo (Tex.) *Globe-News:* Paul Tanner, Pressroom Supt., Houston (Tex.) *Post*, and Arch Dixon, Photoengraving Supt., Oklahoma City (Okla.) Pub. Co.

The new chairman of the equipment and supply men's committee is F. L. A. Gerspach, Intertype Corporation, Houston, Tex. Robert Knappage, Imperial Type Metal Co., Dallas, was elected co-chairman of the same committee.

For the 1952 conference, the following topic leaders were selected:

Composing Room—Ernest Frazier, Oklahoma City (Okla.) Pub. Co.

Machinists — Lewis Boardman, Fort, Worth (Tex.) *Star-Telegram*.

Pressroom—J. C. McClung, Dallas (Tex.) *Times-Herald*.

Stereotype—Irvin B. Cook, San Antonio (Tex.) *Express* and *News*.

Photoengraving—James Henry Gibson jr., Houston (Tex.) *Chronicle*.

Mailers—E. B. Narey, Little Rock (Ark.) *Democrat*.

Exhibitors

The following equipment and supplies firms maintained exhibits during the conference:

Bingham's, Sam'l, Son Mfg. Co.
Fairchild Camera and Instrument Co.
Hi-Speed Roller Co., Inc.
Imperial Type Metal Co.
Linotype Parts Co., Inc.
Morrison Co., The
Palmer, E. C., & Co.
Western Newspaper Union.

Spitaleri Discusses Research

Vernon R. Spitaleri, Manager of the ANPA Mechanical Dept., spoke upon the objectives of the ANPA Research Dept. He highlighted the basic ANPA Research effort in all its phases beginning with the foundation, the aims, objectives, and projects presently underway. A list of numerous projects now in various stages of development were discussed. Slides were shown of the new laboratory in Easton now nearing completion. Available in the building will be 8400 sq. ft. of floor space for research and for newspaper production operation.

Mention was made of the most encouraging cooperation and interest shown on the part of a large percentage of the suppliers and manufacturers of newspaper supplies and equipment.

Manufacturers have further cooperated by loaning equipment valued in excess of $100 thousand. Included equipment will be, for example, a two-plate-wide semi-cylindrical newspaper press loaned by R. Hoe & Co. with reel stand and rewinder unit and with provisions for a folder. Much other equipment has also been loaned.

Just how the ANPA has approached the application of research in newspaper

Plaque honoring George Woodman, outgoing chairman of SNPA Western Div. Mechanical Conference, was presented to him at banquet. Mr. Woodman (third from left), Mechanical Supt., Fort Worth (Tex.) *Star-Telegram*, is shown plaque by Ted Barrett (third from right), banquet toastmaster, who made presentation. Mr. Barrett is advertising and public relations director, Dallas *Morning News*. Newly elected Mechanical Conference Chairman, Ralph Moffett (second from right), Mechanical Supt., Dallas *Times Herald*, is among those enjoying the occasion. Others are, left to right: Walter Johnson, jr., Asst. to Labor Commissioner, SNPA., Chattanooga, Tenn.; George Guthrie, Pressroom Supt., Little Rock (Ark.) *Gazette*; Mr. Woodman; William Sefton, Howard Flint Ink Co., Houston, Tex., Chairman of the equipment and supply men's committee, which tendered the banquet; Mr. Barrett; Mr. Moffett, and Robert Harrison, Plant Engineer, Dallas (Tex.) *News*.

production was illustrated by Mr. Spitaleri when he referred to one of the projects under way—that of studies of basic stereotyping problems and techniques. Since many of the variables in the newspaper printing process are introduced in the stereotype department, through no fault of the personnel working there, it was felt that research efforts in this direction should bear early fruit. The broad studies of stereotyping originally started as a project to reduce or eliminate the need for mat packing. Much basic information was developed regarding the stereotyping process which indicated the opportunities for broad improvements all along the line. The introduction and development of the plastic blanket which has proved to be a highly successful molding medium was virtually a by-product of this research. The application of the plastic blanket and the basically new molding techniques involved were discussed. The plastic blanket, properly used, will definitely provide a better stereotype mold. This is true with the exception of large diameter cylinder rolling machines and other rollers where it is not possible for the upper cylinder to ride free.

Additional shrinkage up to 3/8 in. can be provided by using the blanket without increasing moisture content. It was pointed out that to a great extent the return each individual newspaper will achieve as the result of ANPA research efforts will be in direct proportion to the degree of cooperation afforded new developments by the mechanical men on the newspaper. New methods and techniques must be tried with an open mind before any success or even progress can be made.

Some other phases of research developments were discussed.

A group of executives attending the SNPA (Western Div.) Mechanical Conference in Dallas, Tex. From left to right, they are: Joseph E. McMullen, Asst. Production Mgr., Milwaukee (Wis.) *Journal*; Walter Esry, Asst. Mechanical Supt., Dallas (Tex.) *Morning News*; Elmer Hodgkinson, Asst. Production Mgr., Oklahoma Pub. Co., Oklahoma City, Okla.; Lewis Boardman, Head Machinist, Fort Worth (Tex.) *Star-Telegram*; R. J. Richardson, Production Mgr., Memphis (Tenn.) *Commercial Appeal*, and Amos G. Hoffman, Vice President, Intertype Corporation.

Counting and Bundling Machine

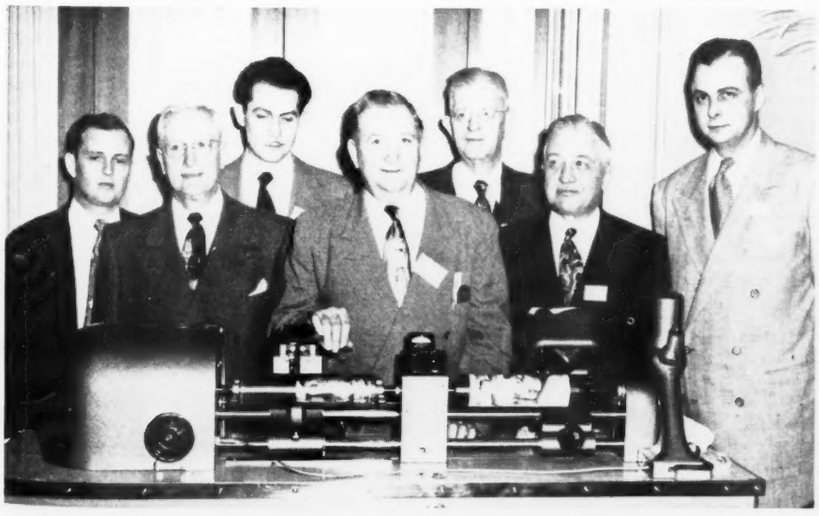
A. H. James, Field Engineer of Cutler-Hammer, Inc., spoke on his company's newly developed Counting and Bundling Machine. The machine delivers an automatically counted preset bundle of newspapers. It is planned to install one of the machines in the plant of the Milwaukee (Wis.) *Journal*. He said: "We do not intend to put it on the market until it has been tried out in actual operation in a newspaper plant. We want to be sure the bugs are out of it."

Newspapers actually are going to obtain the count of papers delivered to the mailroom. All bundles will contain the exact number of newspapers. An electronic device in the equipment pre-sets the count.

Mr. James said: "With the new machine faster movement of newspapers out of the plant together with automatic precision in place of hand counting will result.

"Papers first go into the speed-up section of the machine where they are separated, then into the counting section, and then to a stacking section, from which they are moved to a transverse conveyor.

"Dimensions of the machine are 12 ft. overall, 5 ft. 8 in. at the delivery end and 9 ft. high. Weight is about 8 thousand lbs.



The machine shown here is now called the Fairchild Scan-A-Graver. The new name was given recently by the Fairchild Camera and Instrument Corp. to the electronic "engraving" machine which produces plastic halftones. Figures at SNPA Western Div. Mechanical Conference, group for cameraman behind the photoengraving unit exhibited at the conference. (Left to right): Mike Murray, SNPA Dallas office, Acting Secretary of conference; O. M. Harper, Mechanical Supt., Tulsa (Okla.) *World-Tribune*; Vernon Spitaleri, Manager of the ANPA Mechanical Dept.; T. B. Carpenter, Head Machinist, Dallas (Tex.) *Morning News* and a topic leader; Leven Deputy, Mechanical Supt., Dallas (Tex.) *Morning News*; A. H. James, Chicago office, Cutler-Hammer, Inc., and F. L. Olds, T.W. & C.B. Sheridan Co., Chicago branch.

McMullen Discusses Color

Joseph E. McMullen, Asst. Production Mgr., Milwaukee (Wis.) *Journal*, and President of the Great Lakes Mechanical Conference, discussed the methods used in that paper in developing r.o.p. *three-color* printing. He illustrated his address with slides. McMullen also discussed the various control measures used in all departments to insure best fidelity possible when the color subject appears in the *Journal*.

In December 1950, the *Journal* installed a Curtis Color Analyst. With this instrument, corrected or properly balanced separation paper prints are processed in the engraving department in the same manner as regular black and white engraving copy with no color correction on the plates.

Mr. McMullen stated that the performance of the Analyst has exceeded expectations. "With it," he reported, "a set of three-color plates can be produced in one-third the time required for a comparable set of four-color plates."

The speaker explained that basically the Color Analyst is an optical device employing filters and mirrors to present a colored image from three black and white separation prints or proofs for the

(*Continued on Page 67*)

Equipment & Supplies

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT *Engineer*, 1276 West Third St., Cleveland 13, Ohio.

Newly Engineered Linotypes

MERGENTHALER Linotype Co. announces its Wide Range Models 33, 34, 35, and 36, have been newly engineered to cut maintenance time and to boost production. The Wide Range line of Blue Streak Linotypes, states manufacturer, are designed to meet the diversified composition requirements of newspaper and job shops. Equipped with magazines 35% wider than standard magazines, these models can accommodate large display faces as well as text-size matrices.

Linotype engineers have developed an Electromatic Safety System, which prevents shifting of magazines until all matrices have been distributed. If one or more matrices remains on the distributor bar, or in the distributor box, the magazine shifting mechanism is locked in place through the action of an automatic safety latch.

The magazines are also locked in place if any matrices remain in the channel entrances. A special electric circuit is operated by hinged upper and lower plates on the channel entrances, protecting the entrance partitions from possible damage.

Two green lights, located near the pi stacker, light up and remain on when the magazines are ready for shifting. If either the Distributor light or the Channel Entrance light is not on, the operator knows that matrices still remain to be distributed. If the operator should ignore the green lights, he cannot shift the magazines until the distributor or channel entrance has been safely cleared.

Another feature now on the Wide Range Linotypes is a magazine elevating mechanism which makes shifting easier and greatly simplifies maintenance.

Standard swing-out keyboards are now used on the new Wide Range models. All parts become accessible in the few seconds required to swing out the keyboard. Cams lift out easily and each rubber roll is released by loosening one screw. Also, the keybars may be removed as a unit.

For mixing matrices from adjacent magazines on Wide Range Mixer Models 35 and 36, a new Feather-Touch Mixing Control has been designed. A simplified operating mechanism transfers keyboard action from one magazine to the other at the touch of a lever. The new mixing device is counterbalanced to give smoothness and speed in the manually operated mechanism.

The keyboard rod frame on Wide Range Linotypes equipped with both 72 and 90-channel wide magazines has been redesigned to permit a swinging action. The pivoting of this frame brings the proper set of keyboard rods into operating position when the operator shifts the new mixing control. The action is said to be direct and maintenance is simplified.

Minor Burns Remedy — Gebauer's Tannic Spray is claimed to relieve pain immediately from minor burns, and dries into a thin, transparent, protective coating that does not require bandaging. It is said to minimize blistering and infection in nine out of ten cases. Developed by the Gebauer Chemical Co., the solution is packaged in a bottle which provides a spray of tannic acid by pressure on a closure which contains a built-in nozzle. Sponsor states the Tannic Spray is hermetically sealed in the container against contamination and can't leak.

Plastic Molding Case

THE Smatco M-M Plastic Case for stereotype molding has been developed by Shaw Machine and Tool Co. It is claimed the molding medium will neither stiffen nor become more flexible with temperature changes and will stand up under repeated use. The rubber-like plastic case (0.006 in. thick), it is reported, helps prevent column rules in a newspaper form from cutting through the mat. It also protects the cuts and type, and is claimed to prevent distortion in the stereotype mat because the rubber-like material flows under molding pressure.

Sponsor claims that depth gauge and microscopic comparisons have shown that maximum depth is obtained by using the special plastic case. It is also stated that the Smatco M-M Plastic Case, with the cork or deep mold creeper inside, affords creepage at both top and bottom which tends to eliminate any distortion during rolling. Shaw further claims that the case can be used for 5000 impressions and up.

Synthetic Rollers

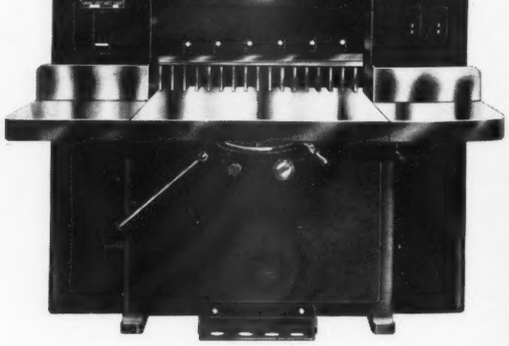
SYNTHETIC roller designed for various kinds of printing are described in a two color, four page bulletin issued by Ideal Roller & Mfg. Co. Included among the descriptions are rollers for aniline, newspaper, direct, offset and rotogravure printing. Information is also listed concerning the Masterlith, coating and varnishing, Inkmaster, plywood coating, and waxing synthetic rollers. In addition, the bulletin contains instructions for setting, washup, solvents, care and inspection in the use of Ideal Synthetic Rollers.

Automatic Clamp Added

THE Challenge Style 370 Power Paper Cutter has been equipped with an automatic clamp operating in unison with the knife, according to The Challenge Machinery Co. A two-hand starting device controls both the hydraulic clamp and the power knife bar. The clamp is designed to be on the stock ahead of the knife, making the cutting operation fully automatic. The clamp can be used as a finder by operating the foot treadle independently.

Available in a 37 in. size, the machine will cut a lift of paper 5 in. thick. The cutter table measures 20 1/2 in. in front of the knife and 38 in. in back. Left and right extension tables are 12 in. by 18 in.

A one-shot oiling system, non-repeat and two-hand safety devices, fluorescent table light and tape magnifier, safety paper guard, two knives and knife guards, and three-section back-gauge are standard equipment. The back-gauge face can be tilted, when required, to compensate for stock draw.

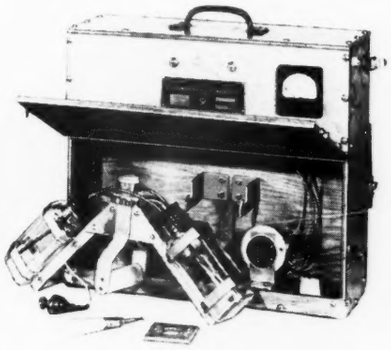


Challenge Style 370 Power Paper Cutter designed with an automatic clamp operating in unison with the knife. A two-hand starting device controls both the hydraulic clamp and the power knife bar.

Standard Process Gravure Spot Plater

UP until recently, the usual method for correcting a type or register mark error on rotogravure cylinders involved the tedious process of "still plating." In using this method, from 2½ to 3 hrs. are required to completely fill the etched area in a scribed line. The results have not been entirely satisfactory because of the high porosity of the plated copper caused by lack of agitation.

Standard Process Corp. has developed the Standard Process Spot Plater. With



this equipment a standard solution of copper sulphate and sulphuric acid is used. Manufacturer states the Spot Plater will completely fill a type section up to 1 in. long by ¼ in. wide with electrolytically plated copper in 10 to 15 min., producing a permanent fusion of common metal in the screen wells of the cylinder. Larger areas can be filled with successive overlapping platings.

The Spot Plater can also be used to fill the small imperfections on the face of a cylinder or shell, eliminating the necessity of temporarily filling the holes with silver, lead, or tin, or in the case of the shell, stripping and replating, all of which operations cause loss of time.

The Spot Plater is a self-sustained portable unit with its own 6 v. selenium rectifier, with wires and clamps, ammeter, variable resistor for controlling amperage, rotary burr for cleaning the damaged section, rubber mask which is centered and taped over the cylinder area to be plated to prevent solution waste during the plating operation, and a hardwood carrying case, 19½ in. by 6⅛ in. by 16¾ in. The resistor also heats the interior of the case, keeping the plating solution at proper temperature when the Spot Plater is in the carrier. The frame of the Plater is made of aluminum to withstand the corrosive effects of the copper sulphate solution and to minimize the weight of the unit.

The plating solution flows by gravitation from one glass container through tubing and a section of the electrode holder into a Lucite nozzle which shields the anode and is in contact with the cylinder. From the nozzle the solution passes through the opposite section of the electrode holder and rubber tubing into a second glass container. Flow of the solution can be started again merely by swinging the Plater 180 deg. which changes the position of the containers. A round hole in the rubber mask acts as a pivot for the nozzle so the plater does not have to be removed or repositioned on the cylinder when turning the handle to continue the plating operation. The copper anode in the electrode holder is easily replaced and can be moved forward or backward so that the proper distance between anode and the cylinder can be maintained.

Portability of the Spot Plater permits use in any section of the cylinder-making department or in the pressroom.

For use, the rectifier cord can be plugged into any 110 v. outlet, after which the Plater is ready for operation.

MM&MCo.'s Scotch brand Pressure-Sensitive Tape is shown here being applied to edge offset-lith negatives. A strip has already been applied at the left.

Pressure-sensitive Tape

A PRESSURE-SENSITIVE tape for masking out imperfections in negatives used for offset-lith platemaking was announced recently by Minnesota Mining and Mfg. Co. The tape—tradenamed Scotch brand lithographers' tape—is a red cellophane tape specially treated to keep it free of pin-holes, the producer reported. Other qualities claimed include a special adhesive to make it adhere firmly to a negative's surface, a high degree of opacity, and, speed of application. In addition to touching out imperfections, the tape can be used for laying straight lines or for edging the negatives. The tape is made in ¼ in. to 1 in. widths in 2592 in. rolls.

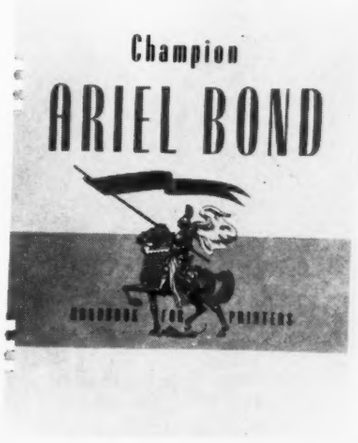
Test Instrument Catalog

GARDNER Laboratory, Inc., has published a 32 page illustrated catalog in which are described instruments for testing operations in the paint, ink manufacturing and printing industries. Size 8½ in. by 11 in. Instruments included are for viscosity, constant temperature baths, film thickness, film applicators, drying time, abrasion, hardness and adhesion, portable gloss and reflection meters, appearance and color and miscellaneous testing devices.

Improved Chute Block

LINOTYPE Parts Co., Inc., is telling the trade that its Star Assembler Chute Block and Rail Assembly for application to Linotypes and some old-style Intertypes, has been improved. The improvements consist of a new method of front rail removal. The front rail can be removed by turning out one screw leaving the balance of the assembler block assembly intact. This is accomplished by furnishing a filister head screw in a counterbored hole in the chute block itself so that when turned up tight the block assembly is fastened rigidly. To complete the assembly the front chute rail is then applied by turning in a flat head screw, the head being flush with the front vertical surface of the front rail. The front rail screw is in alignment with the filister head screw holding the block assembly to the assembler plate and is in line with it.

The second improvement consists of enlarging the clearance cut for the star wheel in the block to permit replacement of the star wheel without removal of the block itself, after the front chute rail has been removed.



Letterhead Design Booklet — The Champion Paper and Fibre Co. has issued a handbook for printers showing examples of type faces and type ornaments found in any plant used effectively in letterhead design. The booklet shows letterhead planning in four stages, which are as follows: (1) Type faces, their contribution to letterhead design; (2) Layout, its use in letterhead planning; (3) Use of type, rules, ornaments and decorations in letterhead design; and (4) Color in letterheads. Sixty different examples of letterheads are used, each accompanied by a brief explanation of the design as well as identification of the type faces and ornaments used. An example of related forms for effective identification is also included.

Photo Sizing Method

DESIGNED as an aid to the photographer, engraver and offset-lithographer in interpreting the correct instructions on a photograph, is a method of photo sizing developed by Byrum Lithographing Co. Designated the Fotografer's Friend, the method employs an expendable thin card, right-angle rule which is attached to the picture by laying a piece of masking tape over each of two or more die-cut holes.

In use, two Fotografer's Frends are positioned over the desired copy area

Here are shown two Fotografer's Frends, one attached to the photograph with masking tape, in proper cropping position. The right-angle rule held in this illustration is only used to visualize the cropped area. The attached rule accompanies the copy when it is sent to the engraver or lithographer, properly filled-in with the correct instructions in the spaces provided for this along the sides of the rule.

of the photo, forming a frame which enables the user to visualize the copy retained in the enlargement or reduction. One right-angle rule is secured to the photograph and is marked with pencil at the intersecting points of the loose rule. Space is provided on the rule for photographic and stripping information. These instructions include the desired line screen, print number, size to enlarge or reduce, job number, and purchase order number.

Sponsor claims the provision for instructions on the Fotografer's Frend is designed to reproduce all pertinent facts on the negative in a compact area, thereby reducing the chances of errors in the enlargement or reduction and making identification possible if a variety of jobs are ganged through the photographic department at one time.

Proportioning may also be figured with the Fotografer's Frend. Two of the right-angle rules are used, one being placed over a straight line at the width and depth measurements of the cropped area. The other rule is positioned along side the first one to act as a guide or straight edge. If the cropped area measures 3¼ in. wide by 4 in. high and you desire to reduce it to fit a column 2 in. wide, the user slides the first Fotografer's Frend from 3¼ in. to the 2 in. mark on the straight line. The depth of the copy is found on the other side of the Fotografer's Frend wherever it intersects with the straight line, in this case being 2½ in.

The right-angle rules are supplied in die-cut pad form, with approx. 75 rules in each pad. These range in various sizes from 0 in. to 3 in. up to 0 in. to 11¼ in. Graduations and instruction information are printed in red. Sponsor states pertinent instructions for each photo should be filled in with black pencil or ink for best photographic reproduction.

Gardner Gauge

THE Gardner Gauge, with respect to its use in the printing industry, is designed to determine accurately the film thickness of spirit inks and other types of inks applied to sheet-like materials such as cellophane. The gauge is intended for measuring dry thickness of non-electrical conductive coatings and other sheet-like materials. Sponsor states that with this instrument it is possible to first determine, for instance, the thickness of cellophane, or sheet-like material, and then determine the variation in

thickness of inks applied, which have a film thickness of approx. 0.00002 in.

The Gardner Gauge was developed by Maynard R. Euverard of Interchemical Corporation.

The gauge is self-contained, requiring no outside source of power. The body of the gauge is fabricated from aluminum. The gauge is of the direct reading type, conversion tables or charts not being required for computation purposes. When in use, manufacturer states, the only requirement is that the base on which the coating is applied must be electrically conductive.

The dial on the gauge is graduated from 0 to 2 mils (thousandths of an inch) in 0.05 mil steps, and the nearest 0.01 mil can be estimated accurately due to the wide spacing of the graduations. The gauge is originally adjusted to provide readings in the range from 0 to 20 mils. By a simple adjustment of the position of the dial screw, it is possible to extend this reading to from 0 to approx. 50 mils.

When making film thickness determinations on either attached films or on free films such as sheet plastic, paper, etc., the large and small insulator caps (feet of the instrument) rest on top of the surface of the material to be measured.

The Gardner Gauge is contained in lined carrying case with base block for setting gauge to zero, electrical conductor cord with clip, two spare batteries, three spare needles, one spare bulb and tools.

Power Shear Bulletin

THE semi or fully automatic Jacques Power Shear is the subject of a four page, two color bulletin issued by Hobbs Mfg. Co. The machine is designed for cutting paper and paperboard, textiles, light metal and screen, foils and laminations, plastics and acetates, techwood and plyboard from rolls or sheets of material. Illustrations in the bulletin show the Power Shear in both feed and receiving set-ups. Brief descriptions of the feed units, cutting units, receiving gauges, safety controls, cutting head, power drive, table construction, control switches, and safety clamp are included.

Copy Machine Inks

SANFORD Ink Co. has disclosed that Actinic Fountain Pen Inks for Ozalid, Bruning and other copy machines are available in brown, green and black. According to the sponsor, the inks can be used in any fountain pen, are more opaque under exposure to actinic lights, and produce strong, sharp copies. It is also claimed that the actinic colored inks are eradicable. Available in 4 oz. and ⅕ gal. bottles.

Bearing Maintenance

A STUDY of bearing maintenance techniques and successful maintenance, installation and removal procedures, has been published in a four page bulletin by the Anti-Friction Bearing Distributors Assoc. The Association states that this is the first attempt to publish in permanent form all available maintenance information on every type of bearing. A file folder type of binder will be sent to each bearing user who requests it on company letterhead, in which succeeding issues can be compiled. The first bulletin contains information on how to recognize and correct bearing failures. The symptoms of bearing failure are illustrated along with brief descriptions on the cause and correction of the failure.

Bushing Standardization

A STANDARDIZATION program, which replaces more than 1000 different types of transformer and circuit breaker bushings with 38 standard bushings of maximum usefulness, has been announced by General Electric Co in a 12 page, two color bulletin. The standard bushings include transformer and circuit breaker types rated from 15 kv. to 230 kv. inclusive, 1200 amp. and below. Company engineers state that new apparatus will be designed with standard bushings whenever possible so that future bushing stocks for spares and replacements will be simplified.

Essential Accessories for the Pressroom

By STAFF WRITER

II.

Automatic Ink Agitation

Progressive printing plants have long since added automatic ink agitators[19,20,21,22,23,24,25] to their pressroom equipment, for both improved inking and economy. Because of gravity, atmospheric changes, dirt and dust in the air, dirt, paper dust and loose fibers from paper, thixotropic tendency in some inks and other causes, an ink in the fountain must be stirred to maintain the condition it had when withdrawn from the can or as it came off of the ink mill. This stirring is best obtained with an automatic ink agitator in the fountain. There are other machines, also, for homogenizing an ink before it is placed in the fountain. Next to the formulation, the mixing and grinding and dispersion of pigment in vehicle is the most important and costly step in ink making. The automatic ink agitator is the accessory which enables the pressroom to maintain the body of an ink as formulated and milled by the ink maker, and without it color control is just talked about.

Dummy Numbering Machine

The typographic numbering machine is one of the printer's most profitable pieces of equipment. In many plants it is now customary to supply the pressroom with the reading matter in slugs, together with spacing material. The numbering machines are kept in the pressroom and the pressman makes up the form, takes care of changes and keeps the numbering machines in good condition and is responsible for any necessary repairs. Whether this arrangement is practiced or the older method of leaving this work to the composing room since it is preferable when type constitutes the form, the dummy numbering machine[26] is valuable because it permits constant use of the numbering machines which might otherwise be tied up in standing forms. The impression on the dummy machine ("proof block") is in the same position as on the working machines and the dummies may be inserted in forms without spacing adjustments and vice versa.

Ink Mixing Machine

Plants which mix their own inks and tints find the ink mixing machine[24,27] does it better and quicker than is possible by hand. If you see a pressman apparently wasting time mixing ink on a slab with a knife and afterward stirring it in the fountain with a spatula at intervals and ask him why, he will tell you that it is necessary as he had found by experience. Any additions to inks such as conditioners and driers should also be well mixed with the ink for best results. The ink mixing machine soon pays for itself in time and press trouble saved in plants which mix considerable quantities of inks and tints.

Magnifying Glass

While many pressroom foremen do not own or use a magnifying glass[28] there are times when it becomes the most important tool in the plant. In case of printing problems which defy solution by the plant staff so that ink, paper and other specialists are called on for help, the first step is to pull out a magnifier to get a picture that means something. After he learns with the glass what the trouble is, the experienced observer can reason from the effect causing the trouble back to the cause and solution of a problem that often is insoluble to the eye unaided.

An electrically lighted magnifier has been designed to provide correct focus and clear picture at different magnifications, at the same time throwing the proper light on the field within the range of the magnifier. Proper lighting is important because eye strain from frequent use of the magnifier with poor light might be induced.

Every pressman should include in his list of tools a magnifier with at least the power of a linen tester, which may be folded and carried in the pocket.

Hot Spot Carbonizer

Many plants considerably engaged in check printing or in the numerous kinds of multiple billing forms are confronted with specifications for hot spot carbonizing. Previously the cost of a hot spot carbonizer[29,30] was a deterrent of its installation and substitutes generally ended in customer dissatisfaction. Recently a hot spot carbonizer has been announced which is reasonably priced, takes sheets up to 17 in. x 22 in. and spots at speeds up to 3500 i.p.h.

Mechanical Cut Overlays

Mechanical cut overlays[31] are invaluable in plants engaged in high grade plate printing. Hand cut overlays cannot be as good on intricate designs and require more time on the general run of plates, so have been almost discontinued in today's rush.

Two types of mechanical overlays are widely used, one is etched from a print on a special cardboard, the other consists of a special resin dusted on a proof and fixed by heat.

Embossing Compounds

A good embossing compound[1,32] is a great convenience in the busy pressroom. One that can be used with minimum delay is preferred. There is a wax-like compound to be softened by heat in which the female die is forced on the press platen. In a few minutes, the mold hardens as does the male die.

Another quick one is the automatic repressed fiber blanket, smooth black on the face, repressed fiber on the reverse. The impression is regulated, and a print pulled on the black side after the piece of blanket has been glued on the platen, the dead margins trimmed off and embossing may be started.

Block Leveler

The block leveler[13,33] is part of equipment used in pre-makeready departments. When such a department has not yet been started in a plant, the block leveler is an important tool in the pressroom as long as wood mounts are used. An approximately level type high form is a necessary printing element, without which press, rollers and stock can not properly function. Since wood blocks shrink, swell and warp under atmospheric influences, a tool that will quickly and accurately make them level and type-high is a must in the pressroom, not only at the start of the run but also when the block changes in form and dimension on the press.

Plate Gauge

Many pressrooms in plants not currently equipped with pre-makeready departments find the plate gauge[34] a great time and trouble saver. The ordinary type high gauge is limited in usefulness by the depth of its throat when gauging the height of plates and is useless on other than the edges of the plates. The modern plate gauge measures the plate with the load on, under printing pressure so press underlaying is eliminated. The gauge is also useful as a thickness gauge like a micrometer for various materials and objects.

Vacuum Sheet and Web Cleaner

Some years ago a letterpress plant took on a magazine to be printed by gravure and ran into trouble with dirt on the paper. So the plant superintendent devised a vacuum sheet cleaner[10,35] as an improvement on the press brush. This sheet cleaner, which is equally effective on webs, found ready acceptance in pressrooms and paper mills. May be attached to all makes of cylinder and rotary presses.

Perforator, Scorer and Slitter

These operations on a cylinder press utilize perforating, scoring or slitting rules in the form when the perforation, score or slit is parallel to the cylinder journal and also when just part of the sheet is perforated, scored or slit around the cylinder.

When these operations extend the full dimension of the sheet around the cylinder, wheels on the press delivery may be utilized and often are the quickest method.

However, when close register is involved, these operations are best performed with attachments[36] used on the same bar, which may be used at various points on the bar, so that by means of the attachment it is possible to perform the above operations and print on the sheet in a single trip through the press and in register.

It is also possible with these attachments to deliver the sheets in better shape for jogging, thus facilitating work in the bindery.

Electric Heater For Hot Embossing

The advantages of hot over cold embossing are well known to printers who are engaged in cold and hot embossing, hot smashing and stamping on photo mount, label and other work. The electric heater[37,38] used today proved very helpful especially when large dies, on the shallow side must be used to emboss very hard stock. In the days when steam and gas heaters were used many printers were deterred from hot embossing but the modern electric heater, because of its simplicity makes embossing as convenient as printing, besides cutting down on production cost. The modern electric heater is far superior to the first electric heaters which had to be locked up in a chase with the consequent hazard of furniture changing in dimensions so that the old-time heater sometimes would fall out of the chase while the press was running. The modern heater also has a registering and die holding device which increases its value greatly.

Uses For A Grinding Tool

A grinding tool[39] has many uses in a printing plant in both composing and press rooms. Such a high speed tool of light weight which is easy to hold is on the market. It may be used to drill holes in flat plates to be mounted or remounted on wood bases; countersinking plates for attaching plates to bases with screws, and in making register marks on color plates. As a grinder it may be used to grind off unwanted parts of plates and to sharpen dies and steel rules in forms and also to sharpen small tools and drills. When equipped with special steel cutters made by its manufacturer, the unit may be used to mark identifying characters on plates mounted on wood and shell casts; for routing stereotypes and composing machine quad lines; to correct rules and tint plates for register; to remove unwanted parts of electrotypes, photoengravings, stereotypes or other plates; and to make tint blocks, poster borders, large letters and other characters from linoleum, wood and zinc.

Tools To Repair Edges of Screen Plates

In many pressrooms the edges of screen plates need repair at times either when plates are received with bad edges or from wear on plates that must be used again. It is not always practicable to send the plates with harsh edges to the supplier and a pressman after some practice first on discarded plates may learn to do tooling enough to make a plate printable. The engraver with complete equipment[41,43] would use a 133 line lining tool to repair the edge of a 133 line plate, a 120 line tool for a 120 line plate and for other screens a tool with corresponding lines and this of course is the proper procedure, but some printers who use mostly 133 line plates use a single tool, a 133 lining tool on plates from 120 to 150 line screen.

This little lining tool is well adapted to the purpose but more practice in its use is needed than with the other two substituting tools[40], the roulette wheel and the vignette rake. The roulette wheel is a small screened wheel on the end of a handle and the vignette rake, also screened is drawn across the edge of the plate.

Ink Mixing Scales

The component parts of many mixtures including printing inks are best measured by weight for obvious reasons. Because of difference in specific gravity a heavy opaque ink may bulk five times as large as a transparent ink. A postal scale is sometimes used in weighing trial batches of inks for a mixture but the scale[43,44,45] used by photographers to weigh chemicals is more accurate and so preferred. The name of each one of the set of weights, such as half-ounce and ounce and so on should be marked on it.

Makeready Paste

In the old days various kinds of home-made paste were used. If covers were fed into the folders of a rotary press, a great batch of paste would be made daily for the purpose and a portion of this batch would be allotted for the pressmen on the cylinder and platen machines. Or the pressman could get paste in a small bottle at the stationery or drug store. Today a makeready paste[46] of the tapioca type is used in most pressrooms because of its superior keeping qualities as well as adhesion. If bought in large quantity for economy, a small lot may be withdrawn from the original container and kept in a small can, say a cleaned empty ink can. Many plants buy makeready paste as well as seldom used inks in collapsible tubes.

Tiering Machines

In those plants where considerable paper is stored in the pressroom and there are many of them, a tiering machine[47] makes for economy in labor, time and space just as it does in the storeroom. Cases, skids and rolls, heavy though they are, are handled with ease and may be stacked up to the ceiling. Drums and barrels of ink also are easily handled. During the last half century many improvements have been made in tiering machines.

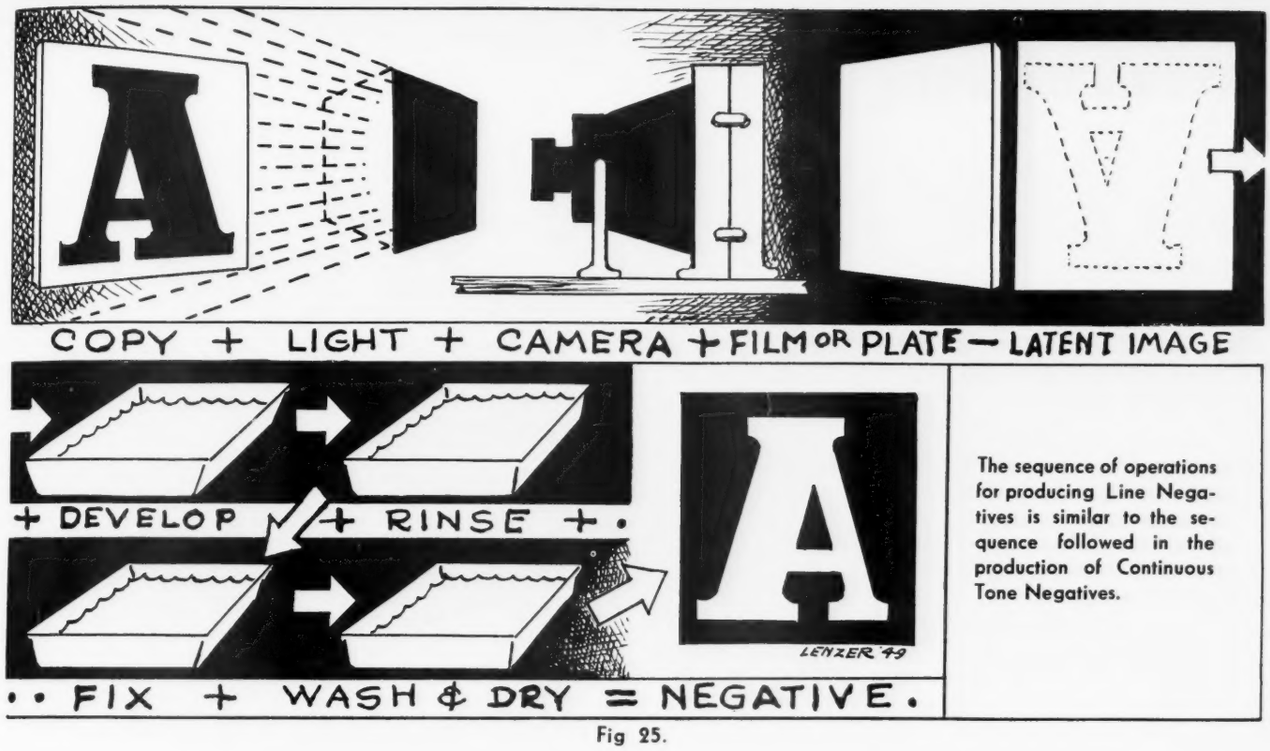
(*Concluded*)

Meeting the Situation

(Abstracted from an address delivered before the annual convention of the Printing Industry of America, Chicago, September 1950, by William F. Gutwein, C. T. Dearing Printing Co., Louisville, Ky.)

WHEN a new foreman is able to use common sense and good judgment in meeting the many new situations that are bound to come up, his boss and company are bound to win. If he isn't able to handle the work and the people under him, the big boss and the company are bound to lose, for production and quality will be poor, grievances will arise, and the company begins to have serious relations with its customers and its employees.

[1]American Type Founders.
[2]Rouse, H. B., & Co.
[3]Southworth Machine Co.
[4]Printing Machinery Co.
[5]Hamilton Mfg. Co.
[6]Robert Royden Greer.
[7]Bingham's, Sam'l, Son Mfg. Co.
[8]Chapman Electric Neutralizer Co.
[9]Simco Co., The.
[10]Doyle, The J. E., Co.
[11]Continental Printing Equipment Co.
[12]Blatchford Div., National Lead Co.
[13]Challenge Machinery Co.
[14]See your press manufacturer.
[15]Justrite Mfg. Co.
[16]Hewson, The John, Co.
[17]Herbert Products, Inc.
[18]U. S. Radium Corp.
[19]Cottrell, C. B., & Sons Co.
[20]Gegenheimer, William
[21]Goss Printing Press Co.
[22]Margach Mfg. Co.
[23]Ortleb Machinery Co.
[24]Read Machinery Div., Standard Stoker Co.
[25]Ross, Charles, & Sons Co.
[26]American Numbering Machine Co.
[27]Alsop Engineering Corp.
[28]See Yellow Pages, December 1950 Reference Issue, *Printing Equipment Engineer*, Pressroom Index, Magnifiers and Reducers 5BB
[29]Mendes, J. Curry, Corp.
[30]Young Engineering Co.
[31]See Yellow Pages, December 1950 Reference Issue, *Printing Equipment Engineer*, Pressroom Index, Overlay Systems 5DD
[32]New England Newspaper Supply Co.
[33]Vandercook & Sons, Inc.
[34]See Yellow Pages, December 1950 Reference Issue, *Printing Equipment Engineer*, Pressroom Index, Testing Instruments 5U4
[35]Hoe, R., & Co.
[36]See Yellow Pages, December 1950 Reference Issue, *Printing Equipment Engineer*, Pressroom Index, Perforating, Slitting and Scoring Attachments 5FF
[37]Acme Electric Heating Co.
[38]Thomson-National Press Co.
[39]Chicago Wheel & Mfg. Co.
[40]See Yellow Pages, December 1950 Reference Issue, *Printing Equipment Engineer*, Pressroom Index, Tools 5TT4
[41]Bridgeport Engravers Supply Co.
[42]Pitman, Harold M., Co.
[43]Howe Scale Co.
[44]Fairbanks, Morse & Co.
[45]Toledo Scale Co.
[46]See Yellow Pages, December 1950 Reference Issue, *Printing Equipment Engineer*, Pressroom Index, Adhesives 5A1
[47]See Yellow Pages, December 1950 Reference Issue, *Printing Equipment Engineer*, Pressroom Index, Paper Tiering Trucks 5UU3; and Paper Cutting and Processing Index, Paper Handling Trucks 4D1



The sequence of operations for producing Line Negatives is similar to the sequence followed in the production of Continuous Tone Negatives.

Fig 25.

The ABC of OFFSET

For Letterpress Printers

By George Jos. Lenzer

XIII
BLACK AND WHITE PHOTOGRAPHY

NEGATIVE MAKING (LINE)—As a form of examination, and to test the knowledge gained from what has gone before, let's make a hypothetical Line Shot Negative.

Sinking our teeth into the meat of photography about now, will prepare us for a better appreciation of what reproduction photography means. It will enable us to better understand the more intricate phases and procedures that follow.

So that there will be no hitch in our procedure we will make certain that our tools and materials are all in order. Remember that preventive maintenance will prolong the life of the equipment. Therefore, let us compare the equipment with the following check list:

(1) *Lubrication*—Oiling of all moving and bearing parts, rails, gears, pumps, etc., of the camera assembly is of prime importance. Do not oil any parts of the lens assembly.

(2) *Camera Lamps*—All lamps should be cleaned and dusted. With arc lamps, insert and adjust carbons. Place and secure lamps in correct position.

(3) *The Lens*—Dust the lens, and securely mount the assembly in the lens board.

(4) *Ventilation*—Start the ventilating system in the darkroom, paying close attention to the exhaust element.

(5) *Darkroom*—Turn on all lights. Replace burned out units. Dust and clean the cameraback, bellows and all exposed working parts. Place groundglass into position. All trays, tanks, stirring rods, etc., should be clean and free of accumulated dust and dirt. Adjust water temperature to 67 deg. F. This temperature should be maintained as near as possible.

(6) *Chemicals*—Prepare and mix all developing and fixing solutions outside the darkroom. Adjust chemical temperatures to as near the recommended working degree, about 67 deg. F. Make certain that the temperature control system is operative and functioning properly. Pour chemical solutions into the respective trays.

(7) *Films and Plates*—Take inventory of the stock, making material easily accessible.

(8) *Copyboard*—Clean and dust copyboard and cover glass.

(9) *Copy*—Make certain that the copy is clean, and that all register and dimensional marks are in correct position. Scale the copy to the indicated size of enlargement or reduction. Set the beam compass or other measuring device to the proper dimension. Position the copy on the copy board in preparation for exposure.

(10) *Illumination*—Place lamps in correct adjustment. Turn on the camera lamps, checking for even illumination of the copy, glare, hotspots, etc. Because repeated exposure to the intense light is injurious to the eyes, avoid looking directly into the arc lamps.

The accompanying illustration, Fig. 25, graphically presents the basic mechanics of the subsequent procedures in producing our Line Negative.

Our copy is an example of extreme

Correction

In *The ABC of Offset*—XII, by George Jos. Lenzer, February 1951 issue of *Printing Equipment Engineer*, there was a figure transposition, stated that gelatin used in photographic emulsions has an average melting point of about 150 deg. to 110 deg. F. The average melting point of the purest obtainable gelatin for photographic emulsions range from about 105 deg. to 110 deg. F.

simplicity, a capital letter *A* executed in the highest contrast of black on white.

Before proceeding to the darkroom, we will inspect the copy board cover-glass once more, to make certain that no dust or other foreign matter has settled on the glass. Next, we remove the lens cover cap and place it face downward so it will not collect dust. We now open the lens shutter and diaphragm as wide as possible.

Ready to get your feet wet? Then let's go into the darkroom, and, don't forget to close the door. Got the beam compass or steel rule handy? Fine. Now we can turn out the lights.

No, its not completely dark as you expected it to be. The lens cap was removed. Remember? The light from the copy is being reflected and projected through the lens onto the ground glass where we see an inverted and reverse image of that same capital *A*. It's a rather fuzzy and hazy looking image, but that's because its not in focus.

From here on our work is more or less routine, and follows a repetitive procedure or sequence of operations. Perhaps an operational procedure list would be helpful:

(1) *Focusing*—Measure the existing image for size in relation to the required dimension. By manipulating the adjustment controls, we first move the lensboard away from the ground glass for a larger image, or for a smaller image, the lensboard is moved toward the ground glass. Next, relocate the copyboard in order to bring the image into sharp focus[1].

Turn out the camera lamps.

Remove the ground glass.

(2) *The Lens*—Attention is now directed to the lens and its adjustment. First, the shutter is closed. Here on the lensboard is a gadget called the lens-diaphragm control, and here on the side of the camera is an extension indicator. Second, we set the lens-diaphragm control so the f/32 line coincides with the number on the extension indicator dial. The setting now automatically compensates for the position of the lens.

(3) *The Darkroom*—With the doors closed, all lights in the room are turned off except the safelights required for the film or plate to be used.

(4) *Film Placement*—In this instance we will use a color blind, or regular cut-film. Removing the film from the light-tight box, we note that the emulsion side is dull in appearance while the reverse side appears to be shiny.

Operations—(a) Locate the film centrally on the vacuum back of the camera with the dull or emulsion side outward. A small piece of Scotch tape on each top corner will hold the film in position. (b) Start vacuum pump, and open vacuum valves. Created vacuum and atmospheric pressure will hold the film flat. (c) Swing the vacuum camera-back into position. (d) Turn on the camera lamps. (e) Open the lens shutter. (f) Expose the film for the required length of time.

(5) *Film Removal*—(g) Close lens shutter. (h) Turn off the camera lamps. (i) Switch off vacuum pump. (j) Open the camera back and remove the film.

(6) *Development* — Before proceeding with development, if we study the film, no appreciable change can be noticed. The reaction of the emulsion to the action of light cannot be observed. The image is invisible, and is termed the *Latent Image*.

Since the film must be uniformly developed, we will dip the film first in the tray of clear, fresh water. This will ease any possible surface tension existing in the emulsion. Drain off surplus water, then quickly immerse the film in the developing solution, keeping the emulsion side up.

With continued agitation and rocking, make certain that the entire film is covered by the solution until development is completed. This is evident after about 30 sec. of immersion by the milky appearance of the film.

Remove the film from the developing solution and immerse the film momentarilly in water bath or short stop solution.

Then transfer immediately into the fixing bath where it should be immersed and agitated until the last traces of unexposed silver salts are removed from transparent areas of the negative. The fixing time should approximate double the time required for development.

With the image fixed, the film is transferred to the washing tray or tank, preferably a cascade of fresh water, where it will remain for 5 or 10 min., to wash away the fixing salts which have been absorbed by the gelatin.

We can now remove the film from the bath. Examine the film over a light box or by placing it against a sheet of white paper. If the film appears to be veiled or fogged, with the transparent areas showing a decided grayness, the film must be cleared in a clearing bath.

After clearing, return the negative to the water bath for continued washing for an additional 5 to 15 min. as required for normal film.

(7) *Drying Procedure*—Fill an additional tray with a solution of fresh water containing a wetting agent such as Aerosol[2] (¼ oz. to the gallon). After removing the film from the final water bath, immerse the film in the above solution for a few seconds before proceeding with the drying.

The film is carefully placed between two pieces of lintless blotting paper, or if this is not possible, remove the surplus water with a dampened cellulose sponge.

To hasten the drying, the film should be suspended from a wire line, in the direct air current provided by an electric fan. This last operation completes the conversion of a light sensitive material into a photomechanical negative.

There Is More

Theoretically, the negative is now ready for preparation for the press plate. Such is not the case.

Before releasing, check the negative for accuracy of detail and to guard against error.

Even though the surface of the film is dry to the touch, variations in size will be noticed. This, because of the stretch or shrinkage of the film, due to its retained moisture.

Checking for final image dimension must be deferred until the drying action has become stabilized in relation to the surrounding atmosphere, at which time the film size should be fairly uniform and constant.

For plate making, the emulsion side of the negative is the business side, it is this side that must come into contact with the plate sensitizer when making the press plate exposure.

Double Talk

White is Black, and Black is White. The Left side is the Right side; and the Right side is the Left side.

When we compare the negative, emulsion side up, with the original copy, it will be noted that extreme opposites prevail. What is white on the copy is black on the negative. The black on the copy is clear or transparent on the film. On the negative you will read from right to left; the copy in the original is read from left to right.

Remember this double talk, because it takes many turns and meanings in future procedures. So as not to be considered zany, prepare to interpret the implied meanings expressed in the language of the lithographer. And that is that. *(To Be Continued)*

[1] The ABC of Offset, I-II, *Printing Equipment Engineer*, Feb.-Mar. 1950, inc.

[2] Aerosol, trade name. Eimer & Amend, New York, N. Y.

"Is it too late, Doctor?"

It's *not* too late for Americans who go to their doctors at the *first sign* of any one of cancer's 7 danger signals: (1) any sore that does not heal (2) a lump or thickening, in the breast or elsewhere (3) unusual bleeding or discharge (4) any change in a wart or mole (5) persistent indigestion or difficulty in swallowing (6) persistent hoarseness or cough (7) any change in normal bowel habits.

Guard yourself against cancer. Phone the nearest office of the American Cancer Society or simply write to "Cancer."

American Cancer Society

ROP Color

at Milwaukee (Wis.) *Journal* — Control operations used in producing three-color process plates described

By JOSEPH E. McMULLEN*

UNTIL 1950 practically all of our process color work was done in four colors. Due to continuous experimentation our methods were improved and particular skills developed to the point where quality and production were considered good when judged by present production standards. Despite all this, our color team was not satisfied. Some hues could not be reproduced and the time required for staging and re-etching limited the amount of color work that could be produced. Three-color work, that is, full process color using yellow, red and blue plates only, was considered. A considerable saving in time and material could be expected in the engraving and stereotype departments, and a more flexible operation in the pressroom was assured if full color could be done without black plates. We were interested, and the experiments started with three-color separations made on the engraver's camera from Kodachromes and colored art.

In other experiments black and white prints were made by the photographers from the one-shot camera separation negatives formerly used to produce full color dye prints, and photographed on the engraver's camera at the proper screen angles, but without filters.

While most jobs still required a great deal of staging and re-etching to produce a good job, an occasional set of one-shot paper separation prints would go through requiring a very small amount of hand correction.

This led us to believe that properly balanced separation prints would establish a uniformly high standard of quality in our color work and at the same time materially reduce the staging and re-etching time then required for proper color correction. All we had to do was to determine just what was proper balance and then find a means of accurately measuring each print in a set to make certain they were in that balance.

Experimental Analyst

We had heard of a device produced by Dr. Thomas Curtis for the purpose of evaluating three-color positives for dye print work. After discussing the construction and operation of his Analyst with Dr. Curtis, we thought the instrument had good possibilities if it could be designed to conform to our operation. Since the redesign would be a very costly operation and our theory on 3-color separation print balance was still unproved you can understand our desire for further experimentation. We rented an old model Analyst and started a series of experiments to prove or disprove the soundness of our theory and to explore more fully the possibilities of the instrument.

The color job on Page 161 of our book *Production of ROP Color*, was our first experiment and the results were gratifying. The paper prints were made in our photo department and color corrected in our art department according to the requirements indicated in the Analyst. These corrected paper prints were processed in the engraving department in the same manner as regular black and white engraving copy, with no color correction on the plates.

This entire operation required approximately one-third the time normally required to produce a four-color job. Subsequent experiments substantiated these findings and illustrated more clearly the many advantages of three-color process printing.

On the basis of these findings and spectrophotometric studies of our color inks, specifications for our newspaper Color Analyst were drawn up, forwarded to Dr. Curtis along with an order and the construction of the first newspaper Color Analyst was under way.

Exceeded Expectations

This Analyst was installed in our art department on December 3, 1950 and immediately put into operation. The performance of this instrument has so exceeded our expectations that I fear we may seem unduly enthusiastic whenever we discuss it.

Some of these advantages are:

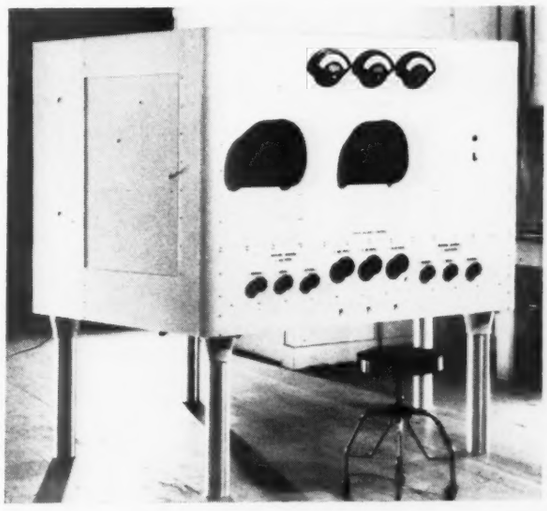
(1) We can reproduce a full color subject in true color, with full rich black where black is indicated, using yellow, red and blue plates only. This is done with the same inks used to print our four-color work, in fact we print both four and three-color subjects on the same page.

(2) A set of three-color plates can be produced in one-third the time required for a comparable set of four-color plates.

(3) Expensive double printing of type and body copy can be avoided by overprinting on the press from a separate black plate.

(4) Type contained in the original copy will be black due to overprinting all three colors.

(5) Process color negatives can be produced on the regular black and white



20 x 24 Curtis Color Analyst for The Milwaukee *Journal* — The largest precision beam-splitting optical Instrument of its kind ever built. Its copy holders accept a full newspaper page layout and permit the Art Director, Screen Cameraman and Engraver to view black and white photographic color separation prints or black and white ink proofs of process halftones in full color. The controls permit optional variations in color balance to be made to suit the observer and the meters measure the percentage of correction required to produce this modified result in the halftone plates.

*Asst. Production Mgr., Milwaukee (Wis.) Journal. *Abstract of address delivered before SNPA (Western Div.) Mechanical Conference, Dallas, Texas, January 1951.*

William Westerman, Milwaukee *Journal*'s Art Dept., places a paper separation print for a three-color advertisement in the Curtis Color Analyst.

engraving camera without the use of filters or image reverser.

(6) Saves time and material required to hot mold and nickel the black plate.

(7) Regardless of running position three-color plates can be registered in advance.

(8) Black plate can be replated without disturbing color register. This is particularly valuable when partial page color ads are run on live news pages.

(9) As there is no black plate for color illustration, black ink needs to be adjusted to suit the type requirement only.

(10) Correct color balance can be achieved more easily and more rapidly on the press.

An Optical Device

Basically, the Color Analyst is an optical device employing filters and mirrors to present a colored image from three black and white separation prints or proofs, for the purpose of visually inspecting the separations to determine if they are color correct for printing purposes.

In the Analyst, pellicle mirrors, front surfaced mirrors, lights and color filters, balanced to the primary colors of the printing inks transform the black and white prints into a full color image. The pellicle mirrors actually are membranes which both reflect and transmit light. The proportion between the reflected and transmitted light varies with the filter in order to produce a balanced condition in the same manner as is used in the Curtis one-shot color camera used by photographers to obtain direct color separations from the original subject. The front surfaced mirrors deflect the light from the separations to superimpose the three images into one full color image for inspection purposes. The filters and pellicle mirrors are balanced to the hues and strength of the yellow, red and blue printing inks and the image viewed corresponds closely to the full color engraver's proof of engravings made from the three black and white paper separation prints. The image indicates if the prints are color balanced. If not, the amount of light falling on each separation can be varied individually to produce a color correct image, if the prints are not too far out of balance. A meter for each print indicates the amount of variation from a balanced condition in terms of percentages of exposure time and dot sizes. With this variation as a guide, new prints can be made by the photographer to bring the separations into balance.

If the prints are in balance, the Color Analyst image may indicate a need for some local correction to emphasize or color-correct a portion of the colored illustration. In this case the artist can retouch any one or all of the separations to obtain the desired result and check the result in the Analyst before sending the prints to the engraver.

Screen Angles

Engravings are made from the three black and white separation prints the same as would be done if they were ordinary black and white photographs with the exception that different screen angles (45 deg. blue, 75 deg. red, and 105 deg. yellow) are used for each separation. Added care is required to insure that each separation is handled under identical conditions to maintain the delicate balance contained in the original separations. After the plates are flat etched, black proofs are pulled and checked in the Analyst to determine whether further color correction is required. Very little hand correction or staging is required of the engravers, the re-etch being limited in many cases to a clean-up etch to reduce the highlights.

Separation negatives for three-color paper separation prints can be made from color transparencies, dye prints, colored art, full color proofs of the fine screen plates and directly from the subject as it is photographed.

We use the Curtis one-shot camera to obtain separation negatives from all but the color transparency. This camera takes three-color separation negatives at one shot. Two pellicle mirrors set at angles inside the box, reflect part of the light transmitted by the lens to two-side film holders and transmit the remainder to the rear film holder, with all images in register. The film holders are also registered and balanced in sets and are fitted with standard ABC blue, green and red glass filters.

We use Kodak Super XX Pan film for our normal operation and Kodak Sports type film where maximum speed is essential. The speed of this film plus the fact that it can be developed in from 10 to 20 min. makes three-separation nega-

Foreman Management Program—The above pictured group recently completed training in the first coaching conference for instructors in the LTF-PIA Foreman Management Program. The instructors in turn will soon be conducting foreman management classes in their localities for an estimated 250 to 300 printing plant foremen. Pictured in Washington, D. C., front row, left to right, are: George E. Strebel, Executive Vice President, Printing Industries Assoc. of Western New York, Buffalo; Harold M. Kentner, Rochester Institute of Technology, Rochester, N. Y.; Charles W. LaBlanc, Executive Staff, Research Institute of America, New York, coaching conference instructor; William F. Gutwein, Director of Employee and Public Relations, C. T. Dearing Co., Louisville, Ky., coaching conference instructor; Charles Shapiro, Manager of Educational Dept., Lithographic Technical Foundation, New York; Sidney S. Levine, Consolidated Lithographing Corp., Brooklyn, N. Y.

Second row, left to right: Lawrence Brehm, Western Printing & Litho Co., Racine, Wis.; John T. Pluhar, Maurice Leeser Co., Baltimore; Willard E. Brown, Judd & Detweiler, Inc., Washington; Clyde A. Blain, The Osborn Co., Clifton, N. J.; Paul E. Blondin, Secretary, New Haven Typothetae, New Haven, Conn.; L. Wesley Jones, Colortone Press, Washington; James M. Cunningham, C. T. Dearing Printing Co., Louisville, Ky.; Ronald S. Davis, The Davis Press, Worcester, Mass.

Type Man of Year 1950

Frederick H. Lutz, Typographic Composition Proprietor of Brockton, Mass., has been named Type Man of the Year 1950. The award was bestowed by the *Trade Compositor*, official publication of the Intl. Typographic Composition Assoc.

He was named top man for his services in behalf of the commercial composition industry, and particularly in recognition of the value of the work he did as president of the association.

He served two terms, from September 1948 to September 1950. During his administration the Department of Research and Standardization was established at ITCA headquarters in Philadelphia.

***Printing Equipment Engineer* extends congratulations to Mr. Lutz.**

tives available in a matter of minutes rather than hours or days.

To produce one-shot paper separation prints with the necessary color balance, controls must be established. For example, each batch of film, masking material, and paper that is to be used for color is tested to determine its time and exposure characteristics. The findings are recorded and referred to when this material is used. After testing, the material is kept under refrigeration until used.

Developing Negatives

To insure uniform results, the one-shot separation negatives are tray developed with careful control of time and temperature and are fixed, washed and dried together.

After drying, the negatives are checked on a densitometer to determine if they are correctly balanced. The densitometer reading also determines the exposure time for the masks used to color-correct the negatives.

Each mask is then attached to its respective negative in register, placed in the enlarger and the paper print exposures are made. At this time an important color correcting compensation is made.

Plate Balance

By experimentation, we had determined that we could consistently print a neutral gray scale with a 100% value blue plate, an 80% value red plate and a 70% value yellow plate. This plate balance would print clean true hues, good blacks, and in high highlight areas would print good whites with all colors printing. The black and white prints are made with these values. These prints are developed, shortstopped, fixed and washed at the same time. A waterproof resisto paper is used for the prints, therefore, size is held quite accurately. When dry, the paper prints are placed in the Analyst for a final check before release to the art department.

The prints are checked to determine if, where, and how much local correction is needed, and in the case of editorial, if the value of the color picture is up to the standards we try to maintain.

The blue prints are squared off and also the proofing and stereotyping register marks are painted in. The marks are transferred to the other prints by registering the marked blue print over each of the other prints and stabbing through the original marks.

Local correction is then made. The correction is checked in the Analyst before the prints are released to the engraver.

The print is photographed in the engraver's camera. The engraving camera man places a white swatch of paper on each print, outside the subject area. This white is used as a guide for negative screen value and as an etching guide. Outside of screen angles and the particular care taken in timing each exposure they are photographed the same as regular black and white copy.

Developing Screened Negatives

The screened negatives are developed. Time, temperature and agitation are watched carefully to make certain the exact balance of the paper prints is held.

The image is printed on zinc. Zinc is used because (1) It etches more rapidly than copper; (2) Cost of material is considerably less; (3) It can also be staged and re-etched, and (4) It can be processed with the same equipment used for black and white engravings.

The plates are etched the same as black and white, using the white swatch as a highlight guide. We etch to a depth of 0.005 in. in the highlights.

After the flat etch, color plates are proofed in black for check in the Analyst before re-etching. When these black proofs are put in the Analyst, they show a color image comparable to a full color proof of the same plate.

A color man compares the color image of the black proofs, and the color image of the separation prints. If there is an error he will correct it by staging and re-etching the plates as indicated by this comparison.

Three-Bite Engraving

The flat etch is the usual three-bite engraving, to full 0.005 in. depth in highlight areas, and with particular emphasis on good stereotyping quality. The highlight re-etch is a fast bite, without powder and without staging, to reduce the highlight dot to desired size.

When the plates are finished color proofs are pulled, and plates and proofs forwarded to the stereotype department.

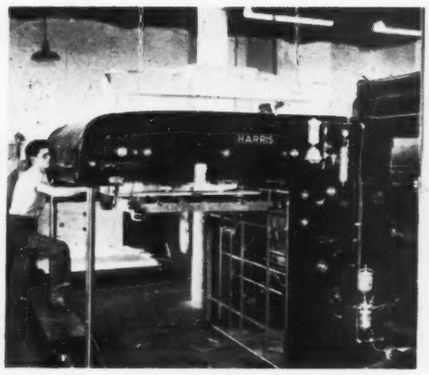
Rigid Controls in Stereo Dept.

In this department, rigid controls are established to insure accurate reproduction of detail, size and register of the finished plates.

Using the register marks as reference points, mounting holes are drilled in all plates. A master base is locked up in a chase with the type and whatever fill

Joseph Edwards, Vice President of Edwards Brothers, Ann Arbor (Mich.) Printers, has announced that his firm recently installed four additional 22 in. by 34 in. offset presses made by Printing Machinery Div., Electric Boat Co. The firm prints text books, technical pamphlets, music and other short-run work, many jobs consisting of less than 500 sheets.

From left to right above are: Harold Gegenheimer, Manager, Printing Machinery Div., Electric Boat Co.; J. W. Edwards, Vice President, Edwards Brothers; A. Coffey and S. Topaz, Electric Boat service men; Production Mgr., H. Deters, Foreman G. Hagopian, and Pressmen E. Briegel, G. Thomas and Marion Dunham, all of Edwards Brothers.



Ketterlinus Installs Harris Press—Shown above is the two color 50 in. by 72 in. Harris offset press recently installed by the Ketterlinus Litho Mfg. Co., Philadelphia. From left to right are: Irvin Fuchs, Ralph H. Randall, H-S Philadelphia Branch Manager; Sid Bevan, Pressman; J. L. Landenberger, President of Ketterlinus; and Elmer Dougherty.

matter necessary to cover non-printing areas. Each color plate of the set is molded on this base. This assures correct positioning of the different color plates. The form is now slid onto the apron of the direct pressure machine, planed, and closely inspected for chips or any other foreign matter that might injure the mat.

A mat is now placed on the form and covered with the molding combination. Machine time is used for hot molds. To insure accurate control of shrinkage, stop watch timing is used for cold molds. We have found accurate timing extremely important.

The mat is cut to regular chase trimming lines. The same chase is used for all the plates in a set. This means the set of color mats will be trimmed in register.

After trimming, the cold molded mat is placed in the pre-scorcher for a timed 30 sec. The mat is then packed and placed in a Sta-Hi Autoformer for drying and shaping. Cold molded mats are put through two cycles of the Sta-Hi to insure complete shrinkage; hot molds are put through only one. The mat is given a Finaltrim to insure exact fit in the clips of the casting box. This is necessary as the entire set of color mats must be placed in the casting box in exactly the same position in order to maintain register.

Color plates are cast in the Automatic and also in the Junior Autoplate. The casting sequence and color identification are stamped on all plates as a guide to the pressmen.

All full color plates are nickeled to prevent wear in printing. This enables us to hold fine detail throughout the entire run.

Press Makeready

For the pressroom, the first step in color makeready is a run-layout sheet. This sheet contains all information pertinent to the run, such as compensator measurements, web leads, color and black page positions, sequence and size of sections, running date, presses to be used, as well as data from previous runs. This layout is prepared as early as possible to enable the men to familiarize themselves with the run before makeready time.

Actual color makeready begins with the removal of black plates from the previous run. Black unit clutches are pulled and the webs hung at the folder. Color unit webs are removed completely. This means that no newsprint is wasted on color run-off. The ink pump clutches are disengaged and color fountain keys are opened fully. This is done quickly with an automatic screwdriver with a standard 12 point socket welded to the shank.

Ink cleaning blades are hung on the outside lower roller stocks of the units to be cleaned. The press is put on slow motion and the proper color inks are pumped through the rail tubes until all old ink has been removed and replaced with the desired color.

Press cleanup time will run from 7 to 15 min., depending on whether the desired color was last used in the same fountain. All units are cleaned at the same time.

On four-color work, color keys are preset to deliver a thin film of each color ink. We have found it desirable to start with a light color setting and add color as required. In this manner the relative values of the colors can be determined more readily and they can be properly balanced without running a large number of spoils. On three color work, the color is preset very much like regular black.

Compensators are pre-set to measurements shown on the run layout sheet. As these measurements were taken from a similar run on this press, the settings will be accurate enough to start the run with a minimum number of spoils.

When color cleanup is finished, the cylinders are reversed, units engaged, webs led in and the cylinders are marked to permit plating according to the cast numbers stamped on the plates by the stereotyper. The matching numbers of all the plates in a set are plated to overprint. This reduces the possibility of off register due to shrinkage. After the press is plated it is run up to a speed of 8800 per hour, color compensation is corrected, and two copies pulled for registration markup. If register is reasonably close, the run has officially started; if not, the presses will be shut down while copies are marked and plates are registered.

A glass is used to determine the number of shims required to move the plates into register. The overlap or off-register of any color is compared with the calibration bars on the gauge. The figure below the matching bar indicates the number of cards or shims required. For the one-half card, 0.005 in. manila is used. For the measures from 1 to 11, 0.010 in. red pressboard is used. A sufficient number of register glasses is available to permit the markup of all pages at the same time.

Obtaining good initial register is not enough. It must be held consistently at the operating speed of the press. Assuming blankets, impression, tension controls, belt spring tensions, and belt lengths are in proper condition and adjustment, straight-in color leads present no great problem in this respect. Angle bar color leads are more critical, as any variation in speed, tension, or impression may affect register. Therefore, final register markup on angle bar color leads is done on copies pulled at operating speed after tension and impression have been set. These settings are held throughout the entire run.

To reproduce a reasonably accurate color copy of the engraver's color proof, inks of the proper hues, strength and printing quality are required, as well as packing firm enough to permit sufficient printing pressure without indenting to the point where bottom and sides of dots are printed.

We have stressed proper planning, accurate controls, and precision operation in all phases of color production. This may have made the operation appear difficult, but that is not the case. The care and control explained here is our normal operation designed to produce a better job in less time with less effort.

Re-names Engraver

Scan-a-graver is the new registered name for the Fairchild photo-electric engraver, according to C. A. Harrison, Vice President of Fairchild Camera and Instrument Corp. The firm reports that almost 500 units of the machine have been installed or are about to be installed in newspapers throughout the country.

IPI Contest Judges

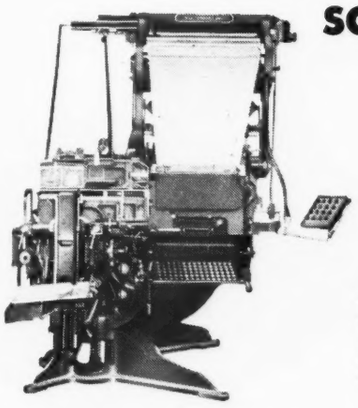
The five judges for the 15th Annual IPI Contest, sponsored by International Printing Ink in cooperation with the Intl. Graphic Arts Education Assoc., have been announced. Harry L. Gage, Graphic Arts Consultant to the Mergenthaler Linotype Co., is again chairman of the awards committee. His fellow judges are: Robert H. Caffee, President, Printing Industry of America; Dwight Cooke, Commentator, Columbia Broadcasting System, Inc.; Dr. Mark Ellingson, President, Rochester Institute of Technology; and Allerton H. Jeffries, President, Jeffries Banknote Co., Los Angeles. Some 10,000 students from 310 high schools and vocational high schools have submitted essays on the subject *You and Color Printing*.

HERE ARE THE ANSWERS TO 2 OF YOUR TOUGHEST COMPOSING-ROOM PROBLEMS!

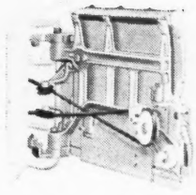
problem 1: to find one machine that combines

- ✓ Simple Construction
- ✓ Easy Maintenance
- ✓ Speed When You Need It!

solution: the new two-magazine Blue Streak Comet



. . . fastest and simplest composing machine to operate and maintain.

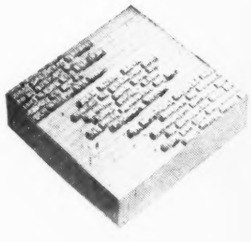


Not only the *fastest* typesetting machine ever built, the Comet is the *simplest* in its assembling, casting and distributing mechanisms. New in design and engineering, scores of parts have been completely eliminated, while the great majority of those remaining are interchangeable with parts on other Linotype models. Everything adds up to easier maintenance, increased production and higher profits. Just check off your own composing-room problems against these Comet features:

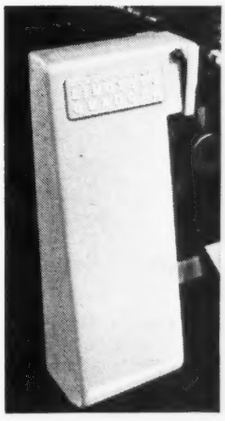
- uses ½ H.P. standard electric motor!
- unmatched accessibility—both the front and the keyboard swing out . . . keyboard rod frame lifts out!
- new distributor clutch responds faster to interference—safeguards matrices!
- greater angle of magazines provides quicker response to the touch of a key; simplified controls make magazine shifting easier!

problem 2: how to save time setting quadded composition

solution: the new ML Quadder



. . . automatically quads right, left, and centers—no more hand counts!



Applicable to most outstanding composing machines, the ML Quadder offers you worthwhile savings. These savings have been found to run as high as 50-60% depending on the kind of work handled. At a flip of the quadder's conveniently located control lever, lines are automatically quadded right, left or center. Amazingly simple, compact and sturdy, the new ML Quadder features:

- non-interference with regular Linotype operation!
- modern engineering and accessibility for easy lubrication, cleaning and maintenance!
- factory-set adjustments that need no checking!
- fast, simple settings for casting lines of any length, in ems or points!
- many parts specially designed to compensate for wear!

Call in your Linotype Production Engineer today to go over the many other details of these developments and help you analyze and solve any of your composing-room problems. Mergenthaler Linotype Company, 29 Ryerson Street, Brooklyn 5, New York.

• LINOTYPE •

Set in members of the Erbar, Spartan and Caledonia Families

Conference Dates *(with organization names and principal officers)*

American Photoengravers Association — 1951 Convention, Netherland Plaza Hotel, Cincinnati, O., October. W. K. James, President; Frank J. Schreiber, Executive Secretary, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference—1951 Conference, Edgewater Beach Hotel, Chicago, June 11, 12 and 13. Chairman of the Committee, L. J. Griner, Production Manager, Detroit *News*. Manager ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Fifth District Craftsmen's Conference — 1951 Conference, Claypool Hotel, Indianapolis, Ind., June 16 and 17. President, J. H. Clendenin, Indianapolis Blue Print Co., Inc., 600 E. Ohio St., Indianapolis, Ind.; Secretary-Treasurer, Robert Wolf, Richardson-Taylor-Globe Co., 4501 Mitchell Ave., Cincinnati 32, O.

Great Lakes Newspaper Mechanical Conference— 1952 Conference, Hotel Statler, Detroit, January 13, 14 and 15. President, Joseph E. McMullen, Asst. Production Manager, Milwaukee (Wis.) *Journal;* Secretary, Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press;* Chairman, Mfrs. and Suppliers Committee, Edgar Flint, Howard Flint Ink Co., Clark Ave. & M.C.R.R., Detroit 9, Mich.

Illinois Newspaper Mechanical Conference— 1951 Conference, Hotel Kaskaskia, LaSalle, Ill., September 22 and 23. President, John Barron, La Salle (Ill.) *News-Tribune;* Secretary-Treasurer, Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.

Intl. Assoc. Electrotypers & Stereotypers — 1951 Convention, Kenmore Hotel, Boston, Mass, October 23, 24 and 25. 1951 Spring Conference, Hotel Cleveland, Cleveland, April 12 and 13. A. P. Schloegel, Executive Secretary, 701 Leader Bldg., Cleveland 14, O.

International Association of Printing House Craftsmen —1951 Convention, Statler Hotel, Boston, Mass., August 19, 20, 21 and 22. President, Fred C. Baillie, 21 Iona, Ottawa, Can.; Executive Secretary, Pearl E. Oldt, 18 E. Fourth St., Cincinnati 2, Ohio.

International Graphic Arts Education Association— 1951 Conference, Hotel Statler, Cleveland, O., June 17, 18, 19 and 20. President, George J. Bilsey, East High School, Cleveland, O.; Educational Director, Fred J. Hartman, 719 Fifteenth St., N. W., Washington 5, D. C.

International Typographic Composition Association— 1951 Convention, Hotel Windsor, Montreal, Can., September 13, 14 and 15. President, O. B. Powell, General Manager, A-1 Composition Co., 155 E. Ohio St., Chicago; Frank M. Sherman, Executive Director, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference — 1951 Conference, Hotel Montrose, Cedar Rapids, Iowa, May 5, 6 and 7. President, L. T. Caldwell, Stereo Supt., Cedar Rapids (Ia.) *Gazette;* Secretary-Treasurer, Paul F. Kamler, Mechanical Supt., Clinton, (Ia.) *Herald*.

Kansas Newspaper Mechanical Conference — 1951 Conference, Broadview Hotel, Wichita, Kan., September 15 and 16. President, Glenn Cummins, Wichita (Kan.) *Eagle;* Secretary-Treasurer, Larry Miller, 701 Jackson St., Topeka, Kan.

Lithographers National Association— 1951 Convention, Spring Lake, N. J., during the week starting June 25. Executive Director, W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conference — 1951 Conference, Abraham Lincoln and Berkshire Hotels, Reading, Pa., April 5, 6 and 7. Conference Director, Theodore A. Serrill, PNPA Manager, Telegraph Bldg., Harrisburg, Pa.; Chairman, PNPA-NJPA Joint Committee, Ralph R. Cranmer, Williamsport (Pa.) *Grit*.

Missouri Newspaper Mechanical Conference — 1951 Conference, Bothwell Hotel, Sedalia, Mo., September 22 and 23. President, Earl H. Barker, Composing Room Foreman, St. Louis (Mo.) *Star-Times;* Secretary-Treasurer, O. K. Hammitt, Mechanical Supt., Moberly (Mo.) *Monitor-Index*.

National Association of Litho Clubs — 1951 Convention, Hotel Cleveland, Cleveland, O., May 11 and 12. General Convention Chairman, Herb Johnson, A. S. Gilman, Inc., 623 St. Clair Ave., N. E., Cleveland, O. Executive Secretary, William J. O'Holleran, Assistant Supt., Myercord Co., 5339 W. Lake St., Chicago 44, Ill.

National Association of Photo-Lithographers — 1951 Convention, Statler Hotel, Buffalo, N. Y., September 5, 6, 7 and 8. Executive Vice President, Walter E. Soderstrom, 317 West 45th St., New York 19, N. Y.

National Printing Equipment Association, Inc. — President, R. Verne Mitchell, Harris-Seybold Co., 4510 E. 71st St., Cleveland 5, O.; James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

New England Mechanical Conference — 1951 Conference, Statler Hotel, Boston, November 3 and 4. President, Howard E. Simons, Waterbury (Conn.) *American-Republican;* Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

Northwest Mechanical Conference —

Pacific Mechanical Conference —1951 Conference tentatively set for Biltmore Hotel, Los Angeles, May 18, 19 and 20. President, L. M. Richardson, Mechanical Supt., Los Angeles *Herald-Express;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles *Daily News*.

Pacific Society of Printing House Craftsmen —1951 Convention, Phoenix, Ariz., date and hotel to be announced later. President, Allison W. Manners, 4137 Fifth Ave., Los Angeles 43, Calif.; Secretary-Treasurer, Isadore Margolin, 8924 S. Gremmercy Pl., Los Angeles 44, Calif.

Printing Industry of America — 1951 Convention, Hotel Statler, Boston, October 24, 25, 26 and 27. President, Robert H. Caffee, President, Wm. G. Johnston Co., Pittsburgh, Pa.; James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington, D. C.

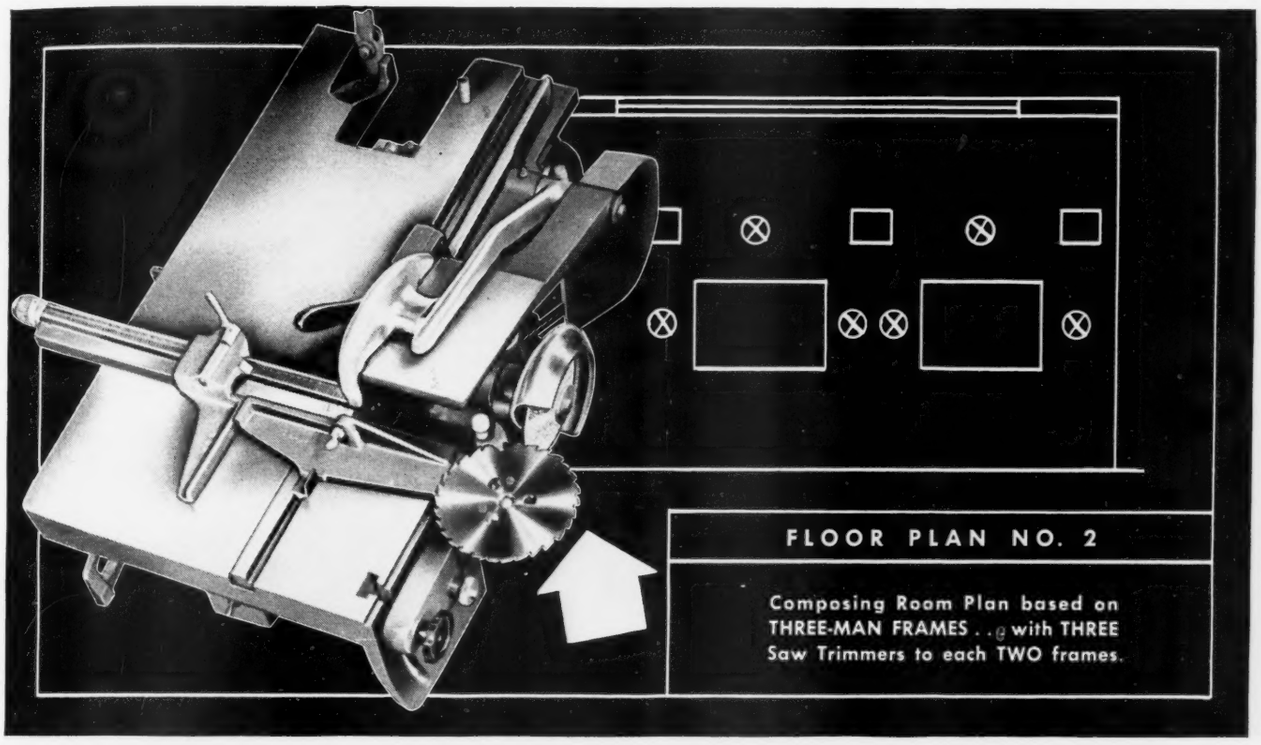
Research and Engineering Council *of the Graphic Arts Industry, Inc.*—President, Frank F. Pfeiffer, Reynolds & Reynolds Co., 800 Germantown Ave., Dayton, O.; Official Headquarters, Bernard Taymans, 719 Fifteenth St., N. W., Washington 5, D. C.

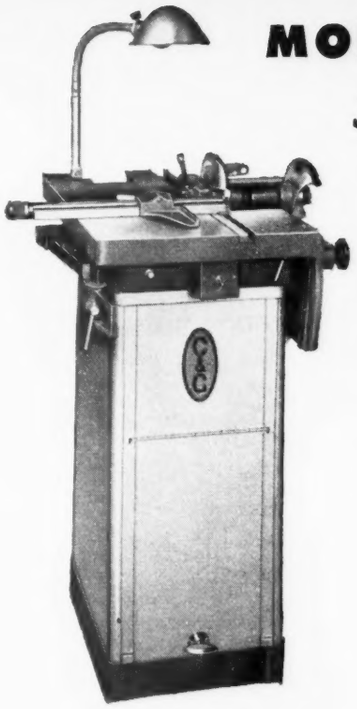
SNPA (Eastern Div.) Mechanical Conference—1951 Conference, Atlanta Biltmore Hotel, Atlanta, Ga., August 27 and 28. Chairman, L. H. Pickens, Mechanical Supt., Greenville (S.C.) *News-Piedmont;* Secretary, Tom Tanner, c/o SNPA, P. O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conference—Chairman, Ralph Moffett, Mechanical Supt., Dallas (Tex.) *Times-Herald;* Conference Secretary Pro Tem, Mike Murray, 621 Texas Bank Bldg., Dallas 2, Tex.

Technical Association of the Lithographic Industry — (TALI)—1951 Meeting, Deshler-Wallick Hotel, Columbus, O., May 7 and 8. President, Dr. Marvin C. Rogers, Research Director, R. R. Donnelley & Sons Co., 350 E. 22nd St., Chicago; Secretary-Treasurer, Geo. W. Wilhelm, 814 N. East Ave., Oak Park, Ill.

Composing Room Efficiency Centers on your SAW TRIMMER





MORRISON *Saw Grinding Attachment Saves Money, Time in Saw Sharpening*

First . . . you'll saw and trim THREE TO FIVE TIMES MORE material with the Morrison Patented Universal Saw Blade — *between sharpenings.* It's made of special high speed steel for easy cutting of all materials — linotype, stereotype, brass, copper, zinc and wood.

THEN . . . with the Saw Grinding Attachment, you can sharpen the blade in LESS THAN FIVE MINUTES, which is about the time needed to *change the blade alone* on others. You save outside blade-sharpening expense at *no chargeable labor cost!* Trimmers can be sharpened just as easily, whenever necessary.

This is only one of many ways in which a MORRISON Saw Trimmer pays for itself in your composing room. Write for the name of an owner in your vicinity, where you may see it and try it yourself — or write for descriptive folder "Essential to Composing Room Economy."

Exclusive MORRISON Features:

- "Behind the Gauge" Workholder.
- Miter gauge with *point* adjustment.
- Right and left hand mitering, all miters face up.
- Miter and lineup gauge.
- Any Angle Gauge.
- Automatic index for plate cutting and trimming positions.
- Swing-out 135 Pica Extension Gauge.

Get More For Your Money in Saw Trimmers . . . **BUY A MORRISON**

Model 3-A Saw Trimmer

Amazingly versatile. Table, 30"x18". Smaller Model 45, with 18"x27" table has "Pistol Grip" saw blade adjustment. Low cost Model "45 Special" available for small plant or auxiliary use.

Symbol of Operating Economy
MC
THE MORRISON COMPANY MILWAUKEE WIS.

THE *Morrison* COMPANY
PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY
125 W. Melvina Street, Milwaukee 12, Wisconsin

NPA
Printing and Publishing Division

Tin Order Amended

Manufacturers of type metal and stereotype and electrotype metal are exempt from NPA Order M-8 prohibiting the use of tin in the manufacture of these metals. As amended January 27, the order reduces the amount of tin used in many products and prevents its use entirely in others. According to the amended order, tin may be used in electrotypers foil up to a maximum tin content of 30 per cent by weight.

Tin may also be used to coat bookbinders' wire for stitching of books, magazines, pamphlets and booklets, other than those used solely for advertising purposes. Beginning March 1, the use of tin is prohibited in the following products: advertising specialties, coated paper, book match clips and staples, spiral binders, paper clips, office staples, paper fasteners, seals and labels.

Molybdenum Restricted

Deliveries of molybdenum for both defense and non-defense uses were restricted by an NPA order issued January 27 which also cut permissible inventories to a 20 day supply. According to the National Production Authority, these temporary measures will be replaced with a longer term program of conservation and allocation. Compounds of molybdenum are used in the manufacture of printing and lithographic inks to make colors fast to light, resistant to solvents such as oil and fat in foods, and to prevent color dyes from dissolving in water.

Copper Order Clarified

Photoengravings and other copper printing plates have been termed operating supplies, permitting their use up to 100 per cent of average quarterly use during the base period (first six months of 1950), according to a clarification of NPA Order M-12. Copper manufacturers may (within his quota) manufacture 100 per cent of their average quarterly production of photoengravers' copper during the base period.

Resistance of Paper to Water

(By M. S. Kantrowitz, Chairman Research Committee, Washington (D. C.) Club of Printing House Craftsmen.)

THE resistance to penetration by water into or through a sheet of paper or paperboard is called its water resistance. The rate at which water penetrates and the time required for penetration through the sheet are the factors which classify the water resistance of paper. Thus all papers can be rated, from very absorbent (such as blotting paper) to very resistant or "waterproof" grades.

During the manufacture of most papers, water-resistant materials referred to in the paper trade as "size" are added to the fibers in the beater, producing internal water resistance. The better grades are also given a surface sizing treatment in the "tub" either during or after its formation on the paper machine. The so-called "waterproof" papers are impregnated or coated with special water-repellent materials by a separate finishing or converting operation.

Book printing papers, in general, are not required to be highly sized since they are not normally required to resist water either in processing or in use. Papers for lithographic or offset printing are both internally and surface sized to impart a fairly high degree of water resistance. This need arises from the alternate dampening and inking of the press plate previous to each impression made on the paper. If the paper is not sufficiently water resistant, it absorbs too much moisture in the water-dampened areas, sometimes causing the paper to stick to the press blanket and not receive a proper transfer of the ink from it.

Water resistance of the paper is important in map color-printing which requires passage of the sheet through the press many times to produce the required vari-colored images. If the paper changes its moisture content rapidly, expansion or contraction of the sheet will result in imperfect register of the successive colors. A certain degree of water resistance contributes to dimensional stability.

Writing, bond, ledger, and index papers are heavily sized, usually by a combination of beater and tub sizing to adapt them for ink writing. Proper sizing controls the absorption of the writing ink and prevents "feathering." It also enhances the erasing and rewriting qualities of the paper.

Announcement has been made by Ludlow Typograph Co. of the appointment of Thomas E. DePoy as Manager of its New York district office, following the retirement of William F. Mulcahy. Starting his career in his father's weekly newspaper and job plant in Indiana, DePoy has been associated with a number of midwest dailies in a mechanical capacity, and also has managed commercial printing plants, among them Taylor University Press, Upland, Ind. Prior to joining the Ludlow organization, he was business and advertising manager of the *American Printer*. DePoy is a veteran of both World Wars, retiring from the service after World War II with the rank of major.

TALI Changes Name

The Technical Assoc. of the Lithographic Industry (TALI) will hold its third annual meeting at the Deshler-Wallick Hotel, Columbus, O., May 7 and 8. J. Homer Winkler, Graphic Arts Technical Advisor for Battelle Memorial Institute, is General Chairman. Responding to the demand for a single organization embracing all technically trained workers in the Graphic Arts, TALI has canvassed its membership and decided upon a new name, Technical Assoc. of the Graphic Arts, which will become official at the close of the annual meeting It is hoped that the new broader name will attract a large number of technical workers not heretofore interested.

For the meeting, Dr. Robert F. Reed, Technical Program Chairman, has assembled a program typifying the broad aspects of the Graphic Arts. Membership applications may be obtained from George Wilhelm, Rand-McNally Co., 536 S. Clark St., Chicago 5, Ill. Requests for annual meeting programs and data should be directed to him.

New Chicago Office

The Chicago office of Chemco Photoproducts Co., Inc., formerly at 38 W. Kinzie St., is now located in larger quarters at 442 N. Wells St. In addition to the new location serving as a sales office and warehouse, it is planned to display platemaking equipment in the near future. Chemco also announced the transfer of David Banks, jr., from the New York office to the Midwest Branch in Chicago as Regional Manager. While with Chemco in New York, Banks was assigned to the Pennsylvania territory.

David Banks, jr., has been made Regional Manager of the Midwest Branch in Chicago for Chemco Photoproducts Co., Inc.

When changing your address, please notify *Printing Equipment Engineer* promptly, so the magazine can be sent to your correct business address.

THE FAIRCHILD SCAN-A-GRAVER*

*Fairchild's name for its machine that automatically produces Scan-a-gravings (plastic halftone engravings) for use in direct printing or for matting to make stereotypes.

AN ENGRAVING PLANT AS SMALL AS YOUR EDITOR'S DESK

Get first quality reproduction at lowest possible unit cost. The Fairchild Scan-a-graver of today is a seasoned "veteran" with a demonstrated ability to turn out quality reproductions under the day-after-day pressure of rigorous newspaper production schedules. Nearly 500 installations are now serving newspapers throughout the country. New lows in engraving costs have been reported by many. Are today's high mechanical costs a problem for you?

Make a 3-column Scan-a-graving in less than 20 minutes. A finished cut, ready for mounting or matting in less than 20 minutes! It's being done every day with the Fairchild Scan-a-graver. All you do is mount photo and plastic sheet on cylinders, make two settings, then flick a lever and let the Scan-a-graver go to work. A 3-column Scan-a-graving is ready for direct printing or matting in less than 20 minutes. A 1-column cut takes 6 minutes!

Boost reader interest with picture-packed editions. Readers like picture-packed newspapers! Publishers prove this over and over again every day. Today, broad picture coverage is within reach of every newspaper with an extra 2 x 5½ feet of floor space. The Fairchild Scan-a-graver makes it practical to publish as many pictures as you want almost as fast as they can be taken.

What fine old friend of yours will be an "Ex" tomorrow?
Only OHIO will get the good news tomorrow about
X-TANE
OXING
Sports REVIEW

Sell more advertising, make job shop pay off. If pictures boost editorial readership, they'll do the same for *advertising* readership. The low-cost cut service now possible with Fairchild's Scan-a-graving process is one of your most effective means of selling advertising space. That same low-cost service can change your job shop from a weak sideline to a healthy money maker.

A HELPFUL SUGGESTION ABOUT MATERIAL SHORTAGES

Current restrictions and shortages of critical materials are threatening to curtail your use of pictures. Here's a suggestion: investigate the Fairchild Scan-a-graver as soon as you can. The inexpensive plastic material used to make Scan-a-gravings is not on the "critical" list. We're in a good position to supply all you can use.

For more details on the Fairchild Scan-a-graver, write today to Fairchild Camera and Instrument Corporation, 88-06 Van Wyck Boulevard, Jamaica 1, N. Y. Dept. 100-19E

FAIRCHILD
SCAN-A-GRAVER

Patents

For The GRAPHIC ARTS

Covering patents issued by January 2, January 9, January 16, January 23 and January 30.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforation

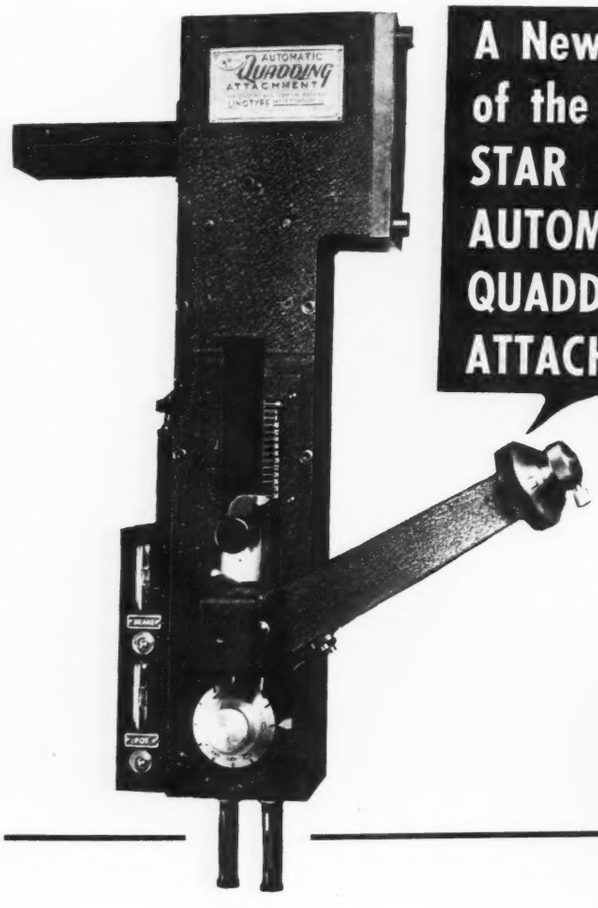
2,536,210. TURNING-IN MACHINE FOR BOOKBINDERS consists of a rotating mandrel having projecting resilient ears tangentially positioned on the mandrel in a helical line about the same. The mandrel is rotated above a support for the cover board of a book and the underlying cover and is rotated so that the ears will wipe the upturned edge of the cover over and downward upon the surface of the cover board. An abutment is provided that assists the operator in starting the bend in the cover material, and an abutment on the supporting frame insures the correct positioning of the cover board and cover under the rotating mandrel. This turning-in machine may be used without readjustment on cover boards of various sizes. Invented by Johannes G. Ort, Cincinnati, O., and Joseph R. Hibbard, Covington, Ky. Unassigned. Application November 26, 1947. 16 claims.

2,538,425. CUTTING MECHANISM of the rotary type is adapted to cut sheets from a travelling web, as in rotary printing presses. The material to be severed is guided to and through the cutting means and beyond, and the possibility of the material following the cutting cylinders or bunching and jamming in the mechanism is removed. A pair of cutting cylinders are provided with cooperating cutting blades to impart a shear cut to a web or sheet of material passing between them. Chain guiding means form a confined path for the cut sheets beyond the cylinders to suitable guiding and forwarding means. The cutting blades are interrupted to accommodate links of the chain guiding means and the cutting is thus completed by the blades despite the association of guiding means around the cylinders. Such uncut portions of the web or sheet as remain as a result of interruptions in the cutting blades are extremely small and are torn during the cutting operation or later. In the meantime, they contribute to the guiding of the sheets. Invented by William J. Nolan, Chicago, Ill. Assigned to The Goss Printing Press Co., Chicago, Ill. Application November 27, 1946. 3 claims.

2,539,373. PREINDEXING APPARATUS FOR STOP BARS OF PAPER CUTTING MACHINES. In the mass production of labels for canned milk or other canned goods, large sheets of printed or lithographed labels are first cut into long strips by one cutting machine and then the strips of labels are cut into stacks of individual labels by another machine, commonly called a "chopper". The latter is generally equipped with a rotary indexed stop bar provided with a series of stop lugs spaced apart at fixed positions corresponding to the dimensions of the labels to be cut successively from the long strip of labels. The apparatus of the present invention permits a set-up man to set up or preindex the stop bar independently of the cutting machine, thus reducing or eliminating idle time of the cutting machine. Invented by Mortimer S. North, Baltimore, Md. Assigned to The United States Printing and Lithograph Co., Norwood, O. Application October 25, 1947. 8 claims.

Composing Room Equipment

2,538,902. TYPOGRAPHICAL DISTRIBUTING MACHINE. By means of two vertically disposed character distributors arranged at different levels and with two magazine entrances arranged one behind the other so as to be swung rearwardly, matrices of different widths and with projecting ears of uniform thickness can be handled. The front magazine entrance is short and leads from the lower distributor to an upper inclined magazine, and the rear entrance is long and leads from the upper distributor to a lower inclined magazine.



A New Feature of the STAR AUTOMATIC QUADDING ATTACHMENT

THE SELECTOR CONTROL

A simple turn of the dial . . . within easy reach of the operator . . . selects any quadding operation,—right flush, left flush, or center, —instantly and easily. He cannot jam the controls. They can be operated by feel alone.

SYNCHRONIZATION WITH THE MOHR SAW

The setting of the assembler slide and vise jaws for changing measures in ONE OPERATION is part of the new Model E **whether or not your line casting machine has a Mohr Saw.**

The Model E machine will still include the field proven, successful method of actuation by vise closing and justification lever.

PRECISION TRADE ★ MARK

LINOTYPE PARTS COMPANY

INCORPORATED

Factory and Main Office

SOUTH HACKENSACK, N. J.

Branch Office: 1327 BROADWAY, KANSAS CITY 6, MO.

CHICAGO • MINNEAPOLIS • DENVER • NEW YORK • BOSTON

The latter entrance is in two sections, an upper one comprising a series of partitions which divide it into channels to guide matrices according to their size, and a lower one comprising a series of opposed grooves which divide it into a corresponding number of channels to guide matrices by their projecting ears. Invented by Frank C. Frolander, Elizabeth, N. J. Assigned to Mergenthaler Linotype Co., Brooklyn, N. Y. Application February 12, 1948. 10 claims.

Feeding, Folding, Delivery

2,536,153. ELECTRONIC REGISTER CONTROL FOR WEB PASTING. Improved register control mechanism is provided for determining the condition of registry of a moving web carrying printed matter with respect to a moving roll of web material, e.g., the free end of which is to be pasted to the moving web, also carrying printed matter. The speed and displacement of the roll relative to the web may be adjusted to bring the web and the roll into registry so that subsequent operations, such as pasting and cutting, may be carried out while the web and roll are in motion. Indicia on web and roll are scanned by suitable scanning means which produce signals corresponding thereto. The locations of the scanning means are so chosen that when the indicia are in registry a predetermined phase relation exists between web indicia signals and corresponding roll indicia signals. The phase difference may be detected by means including a cathode ray oscilloscope. Invented by Nathaniel Bishop, Fairfield, Conn. Assigned to Time, Inc., New York, N. Y. Application February 4, 1947. 3 claims.

2,536,165. A SECOND FOLD ROLLER UNIT CONSTRUCTION is provided for imparting the second or lateral fold to newspapers or other products of rotary printing presses. Second fold rollers are mounted to pivot on lever arms about the axis of a folding cylinder. Choke relief means comprises coiled springs urging the rollers toward each other by engaging the lever arms and diverging at an angle less than the angle of divergence of lines normal to the cylinder radii on which the roller axes lie. Invented by Frank A. Foster, Melrose Park, Ill. Assigned to The Goss Printing Press Co., Chicago, Ill. Application June 27, 1945. 7 claims.

Miscellaneous

2,536,609. INK DRYING BURNER is designed to instantaneously dry ink on printed webs, particularly in color, and to maintain the coolness of the burner and paper support so as not to overheat the paper and weaken its tensile strength by driving off moisture. The burner uses an air-gas mixture produced by the Kemp industrial carburetor covered by patent No. 1,880,141. This carburetor is equipped to feed to the burner just enough air to completely burn the gas supplied to the carburetor at any predetermined pressure. Gas is supplied to burner at a pressure of 24 to 48 oz. per sq. in. and the flame is directed against the web at a correspondingly high pressure. The complete air-gas mixture produces a flame of maximum heat for the gas used. Invented by William W. Kemp and Hartwig M. Hanson, Baltimore, Md. Assigned to The C. M. Kemp Mfg. Co., Baltimore, Md. Application December 8, 1945. 8 claims.

2,536,912. GRAVURE PRINTING ROLLERS are produced by mounting an electric roller to be etched in an electrolytic bath as an anode. A copper cylinder sleeve is mounted to surround the roller in the bath and to act as a cathode. The cathode and anode are rotated in opposite directions to agitate the electrolytic bath and, as a further aid to agitation, the circular cathode screen is formed with vanes to set up circulation currents in the bath. Air under pressure is introduced into the bottom of the bath and bubbled up and swirled through liquid. Invented by Lawrence B. Corbett, Binghamton, N. Y. Assigned to International Business Machines Corp., New York, N. Y. Application July 12, 1944. 1 claim.

2,538,387. A THERMOSTATIC SWITCH is provided for controlling the temperature of the heat applied to crucibles or pots for melting metal, as in Linotype or Intertype machines. It includes a rod surrounded by a tube and supported vertically on the cover of crucible so that the closed end of tube extends downwardly well into crucible. Rod and tube are formed of different metals of differential expansion properties, and are arranged to act as a bimetal thermostat to operate a high speed switch. The latter may be preset to any degree of temperature. Invented by Virgil C. Shidler, Glendale, Calif. Unassigned. Application August 18, 1949. 3 claims.

Plate Making

2,536,316. ELECTROTYPE MATRICES are produced from thin sheets of

Many EASTERN customers have made that statement. That's because they have found EASTERN products fully dependable . . . order after order . . . and the prices most economical!

Deliveries, too, are on time . . . RUSH usually means *today!*

TRU-MOLD CORK MOLDING BLANKETS
FLECTO GUMMED BACKING FELT
(Individually packed 5 sheets per bundle)
DOUBLE COATED CUT MOUNTING TAPE, ¼", ½", 1", 2".
EASTERN ROUTER BELTS — All sizes
EASTERN CIRCULAR SAWS
ROYLE ROUTING CUTTERS
MATRIX SCORCHERS . . . MATRIX TRIMMING KNIVES
CURVED AND FLAT CASTING BOARD
DIRECT PRESSURE MOLDING MATERIALS
COMPOSING ROOM AND STEREOTYPE EQUIPMENT

Representatives for:

STA-HI CORPORATION (Master Former, Premier Shaver, Power Form Lift, Vacuum Casting Box, Masterouter.)
AMERICAN STEEL CHASE CO. (Newspaper Chases, Make-up Trucks.)
H. B. ROUSE COMPANY (Accessories and Equipment.)
CHALLENGE MACHINERY COMPANY (Composing Room Equipment.)

EASTERN FOR ECONOMY

EASTERN NEWSPAPER SUPPLY, INC.
9603 Northern Boulevard, Corona, L. I., New York

thermoplastic material by a method that reduces the difficulty in stripping the mold from a molding pattern such as a copper etching. A thin sheet of vinyl acetate-vinyl chloride copolymer is heated to a molding temperature and a sandwich is made of the vinyl sheet, a thin sheet of tough, grain-free, heat resistant polytetrafluorethylene polymer, and a resilient, thick grain carrying blanket. Sandwich is placed on a molding pattern, blanket up, and a force of 60 to 80 lbs. per sq. in. is applied to compress the sandwich. Compressive force is maintained until the vinyl sheet cools. The vinyl sheet forms a mold with depressed surface partaking closely of the contours of molding pattern at the printing surface thereof and roughly of the contours below the printing surface. Thus the matrice may be easily removed, even though the copper etching includes etch-marks that are undercut. Invented by Howard G. Schwarz, Newbury, and Edward F. Bures, Cleveland, O. Assigned to The Art Electrotype Co., Cleveland, O. Application May 3, 1949. 6 claims.

2,536,670. STEREOTYPE PLATE MAKING MACHINE. This machine is for successively casting, finishing, and cooling stereotype plates in a series of automatic operations. It includes a manually operated, vertically disposed casting unit comprising a casting box and a core, the casting unit being operable for release of the cast plate and the core being tiltable to an inclined position for delivery of the cast plate to the finishing unit. The casting unit also includes means for automatically stripping the cast plate from the mat coincidentally with the release of the plate. A finishing unit includes means for clamping and finishing the plate, for severing the tail of the plate and for releasing and delivering the plate to cooling unit. The finishing and cooling units together include an inclined runway down which the cast plate can slide by gravity. Invented by Paul L. Tollison, North Plainfield, and Charles L. Ricards, South Plainfield, N. J. Assigned to Wood Newspaper Machinery Corp., Plainfield, N. J. Application December 29, 1944. 7 claims.

2,537,604. STEREOTYPE PLATE FINISHING MACHINE. An improved machine is provided for milling tension lock-up pockets on the concave side of stereotype plates. Pockets to be milled on the concave side of the plate can be registered with a selective registry index on the printing surface. The provision of this registering means enables the printer to obtain accurate registry with a series of plates employing the tension lock-up system, for instance, in color printing, from the position of the pockets alone. Pockets are automatically milled on both sides of the plate with only a single cutter bar in about the same time cycle that would be required if separate cutter bars were provided to mill each side. Invented by Charles L. Ricards, South Plainfield, and Isidor Tornberg, Plainfield, N. J. Assigned to Wood Newspaper Machinery Corp., Plainfield, N. J. Application September 10, 1946. 16 claims.

WE KEEP ROLLING ALONG . . .

Consistently good rolling, like anything else of consistent quality, doesn't just happen. It's the product of long experience, continued research, and fine precision equipment.

The rolling of engravers' zinc requires constant checking of gauge, temper, and finish, plus the ability to skillfully handle heavy and hot metal from cast slab to finished sheet.

ZOMO ELECTRIC ZINC and A-Z ALLOY are rolled in our mill which was designed and built for the manufacture of engravers' metals only. Day and night we keep rolling along . . . producing the finest quality plates worthy of the exacting skill of the photoengraver.

When ordering metals from your supplier order the best — ZOMO ZINC and A-Z ALLOY

ATLANTIC ZINC WORKS, INC. • Brooklyn 31, N. Y.

ZOMO ELECTRIC ZINC ◆ A-Z ELECTRIC ALLOY

Printing Inks

2,536,555. A WATER BASE PRINTING INK may be prepared by heating together from 3 to 100 parts of rosin, damar, copal or other ester gums or rosins, and an equal amount of ethylene glycol until the rosin dissolves in the glycol, adding an alkali, dissolving 3 to 40 parts of casein with alkali to form an aqueous alkaline casein solution, and mixing the two solutions together. Urea is added in an amount of 2 to 7 times the amount of casein, and 100 parts of a pigment, such as Para Red or tungstated Victoria Blue, is then dispersed in the mixture. The amount of alkali added is suficient to impart to the ink a pH of from 7 to 9. Invented by Vincent A. Lauderman, Hamilton, O. Assigned to The Champion Paper and Fibre Co., Hamilton, O. Original application July 10, 1945; divided and this application March 30, 1949. 6 claims.

2,537,513. PRINTING INK has the properties of printing without fill-in from half-tone printing plates and of setting as an imprinted film to non-offsetting, non-smudging conditions upon the application of moisture thereto. It comprises a binder component and a liquid carrier component. The binder component is beta-naphthol pitch having less than 0.1 percent by weight of glycol-insoluble constituents. The liquid carrier component is 2-methyl-2,4-pentanediol. Invented by Joseph G. Curado, Bergen County, N. J. Assigned to Sun Chemical Corp., New York, N. Y. Application April 30, 1947. 4 claims.

2,537,531. PRINTING INK is adapted for use in the moisture-setting process and has press stability at relatively high humidities but will readily set after printing with the application of mois-

ture, such as water, steam or spray. Ink is made up of a solvent component and a binder component. The solvent component has predetermined controlled hygroscopicity and the specially selected binder component has exceptional resistance to precipitation from such a solvent component by atmospheric moisture. One ink has a composition in percent by weight as follows: ¼" SS nitrocellulose 6.4; alcohol of dehydration 3.5; resin (100% phenol-aldehyde-Novolac) 12.8; dimethyl phthalate 12.0; dipropylene glycol 41.3; wetting agent (sulfonated fish oil) 4.0; and carbon black 20.0. Invented by Justus Hoyt, Darien, Conn. Assigned to Sun Chemical Corp., New York, N. Y. Application February 27, 1947. 10 claims.

Printing Presses and Equipment

2,536,323. POLYVINYL CHLORIDE PRINTING ROLLER can be used with inks containing a wide range of materials, including water, and may be used at temperatures up to 250 deg. to 300 deg F. without loss of efficiency. A fixed surround on the core of printing roller includes a cylindrical inking surface coaxial to the core. The surround is composed of a homogeneous composition consisting essentially of rubbery plaiticized polyvinyl chloride containing 1 to 5 per cent by weight of a compatible ester gum. Invented by James Spencer, Toronto, Ont., Can. Assigned to Perma-Flex Industries Ltd., Toronto, Ont., Can. Application March 18, 1947. 3 claims.

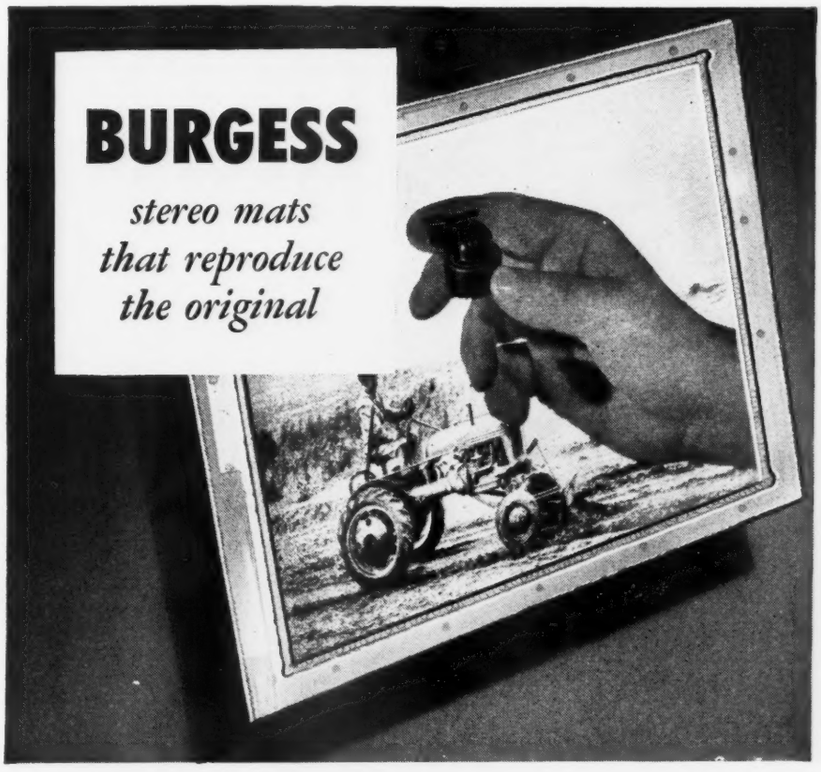
2,537,306. SILK SCREEN STENCIL FRAME. A stencil screen printing device includes a main frame and a mounting frame. The mounting frame comprises an outer, channel-shaped, rigid member and yieldable insert members retained within the outer member. The mounting frame has a stencil screen stretched across the lower surface thereof, the ends of the stencil screen extending around the outer side and top of the frame and being fixedly secured to the insert members. The main frame and mounting frame have cooperating means for removably fastening the mounting frame to the bottom of the main frame in registering position therewith. Invented by Michael De Pasquale, Brooklyn, N. Y. Fifty percent assigned to Bernard Kushner, Great Neck, N. Y. Application August 11, 1948. 6 claims.

2,538,353. MULTICOLOR PRINTING PRESS. A sheet feed cylinder and a delivery cylinder are arranged in juxtaposition relative to the impression cylinder. All of the cylinders are rotated at the same speed and each cylinder is equipped with sheet gripping mechanism. The gripping mechanism is so controlled that the impression cylinder makes a plurality of revolutions before a new sheet is delivered to it by the feeding in cylinder and the printed sheet is delivered to the delivery clyinder. The result is that a plurality of color printings are imparted to the sheet from a plurality of plates movable beneath the impression cylinder and in printing registry with it. The impression cylinder makes five revolutions between the time it receives a sheet to be printed from the feeding in cylinder and its delivery to the delivery cylinder so that five different colors may be printed on the sheet. Invented by Leslie W. Claybourn, Carlton C. Claybourn, and Paul R. Franzen, Chicago, Ill. Assigned to L. W. Claybourn, Inc., Chicago, Ill. Application August 18, 1947. 4 claims.

2,538,751. INKING ROLLER has the resilience and body characteristics of glue-base materials but is immune to atmospheric changes and resists ink oils and solvents. It is formed by mixing a polyalkylene polysulphide synthetic resin with an extender such as dibutyl phthlate, dioctyl phthlate, dihevyl phthlate, and tricresyl phosphate; a miscible aldehyde reactive with the resin; and a weak acid selected from the group consisting of formic acid, salicylic acid, and furoic acid. The aldehyde used is between ten and thirty-two percent. The mixture is liquified by warming it at 100 to 200 deg. F. A layer of the mixture is then applied to a glue-base roller and is cured thereon Invented by Edward D. Hill, Cleveland, O. Unassigned. Application April 1, 1948. 6 claims.

2,538,922. MEANS FOR RECIPROCATING PRINTING PRESS BEDS comprise a driving shaft having a gear wheel adapted to engage alternately with upper and lower racks connected to the printing press bed. A crank on the driving shaft has a crank pin located near the periphery of the gear wheel connected to sliding cross-heads at either end of the machine. A coupling rod connects each cross-head to a slider block at the opposite end of the machine. The printing press bed may be connected to either slider block for effecting reversal of the printing press bed. The bed is connected to a slider block when bed and block are moving

---



Dot for dot, capture the fidelity of the original halftone pattern with a Burgess stereo mat. Controlled moisture content results in a mat of greater plasticity . . . one that takes and holds a deeper impression. The super-smooth surface assures easy release of the casting. Shrinkage is uniform.

For true reproduction of the original pattern . . . for finer quality stereo work . . . select Burgess mats today.

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats

FREEPORT, ILLINOIS

A Laboratory Product BURGESS Chrome MATS

at the same velocity and the gear wheel is moved out of mesh with its respective track. Crank rotates through more than 180 deg. until it reaches position in which bed and block are moving at maximum velocity in the opposite direction. At this point bed is disengaged from slider block and gear wheel is moved into mesh with the other rack. This arrangement gives a longer period of reversal of the printing press bed. Invented by Fred Spence, Sale, England. Assigned to Linotype and Machinery Ltd., London, England. Application May 19, 1945; in Great Britain April 5, 1944. 28 claims.

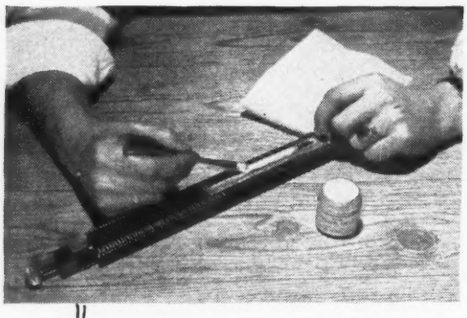
2,539,068. CYLINDER ADJUSTING MECHANISM FOR MULTICOLOR PRINTING PRESSES enables the various colors to be brought into register while the press is operating. The mounting for the color cylinders of the press permits the cylinders to be displaced angularly, or rotationally, and transversely with respect to the main impression cylinder of the press. The mounting for the color cylinder has a rough adjustment and a fine adjustment for shifting a color cylinder angularly or rotationally with respect to the main impression cylinder. This permits the several printing plates to be installed on the plate cylinders in roughly adjusted position, at which time the press is started at slow speed. The pressman may then adjust the several cylinders to bring the color impressions into exact register without stopping the press. Invented by Nelson E. Funk, Springfield, O. Unassigned. Application August 12, 1946. 10 claims.

2,539,382. SHEET DETECTOR CONTROL MECHANISM FOR PRINTING PRESSES. Sheet detector control for both direct and offset printing discards the conventional three printing cylinders and uses two cylinders. One is larger than the other and has a diameter that is twice that of the smaller cylinder. The larger one has removable plate and platen segments while the smaller one carries a blanket. When the machine is used for lithographic offset printing, a plate is mounted on the plate segment and during a half revolution, image is transferred to blanket and during the next half revolution, the blanket transfers the image to sheet. To convert the machine into a direct printing letterpress duplicator, the platen segment is removed and a letterpress segment is substituted. The plate segment is removed from the machine and, if a hard platen surface is required, it, or a steel cylinder, may be substituted for the blanket. Invented by William W. Davidson, Evanston, Ill. Assigned, by mesne assignments, to Davidson Corporation, a corporation of Illinois. Application January 22, 1945. 5 claims.

Contrast Your Mats this Safe Easy Way

ERRORS COST from 20c to 75c each. The simple Linotape Dri-Stain Process makes mat faces black with white or colored reference marks. These contrasted mats reduce errors — save eyes, time and money.

The Dri-Stain Process is *safe*. No acids or caustics used. Unconditionally guaranteed not to harm mats.



SIMPLE as ABC. Your dealer can do it—or you can do it. And at small cost. Top photo shows how a strip of dry tape (Linotape) is laid on a clampful of mats. The clamp is heated, faces turn black. Then inlay is brushed in reference marks, the surplus wiped off and the mats are ready to go back in the machine.

WEARS and WEARS. Find out now about the simplicity and cost of this remarkable process. Send coupon today.

PEE

Linotape Products Co.
1840 Larimer Street
Denver, Colorado

Gentlemen: Please rush your informative folder, "How to Contrast Mats with Dry Tape."

Name.....

Address.....

.....

LINOTAPE PRODUCTS CO. 1840 Larimer St., Denver, Colorado

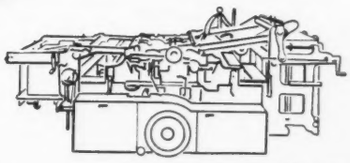
For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D.C.

2,539,383. INKING MECHANISM FOR PRINTING PRESSES includes and ink distributing roller mounted for rotation about an axis parallel with the axis of the printing cylinder. The position of a pair of form rollers with respect to the printing cylinder is controlled by the followers associated with the form rollers. Link means for each of the form rollers are pivotally mounted at one end of the axis of the distributor roller and support the form rolls in engagement with the distributing roller. Links are spring-biased toward each other in a direction for engaging the form rollers with the printing cylinder. A four position cam between the links is operative to move one or both of the form rollers and the followers carried thereby into operative or inoperative position with respect to printing cylinder. Invented by William W. Davidson, Evanston, Ill. Assigned, by mesne assignments, to Davidson Corporation, a corporation of Illinois. Application August 11, 1941. 4 claims.

2,539,512. TUBULAR GAS BURNER WITH ATTACHED REFLECTOR. This gas burner is for use with printing presses of the small cylinder type known as Little Giant. When the press is running the paper, in sheet form, it is drawn past underneath the drier and any moisture at once disappears. The burner pipe and reflector shield then extend across the web or sheet. When the press is not running, the flame to the burner is extinguished and the drier can be swung to one side. Invented by William C. Herbert, Brooklyn, and William C. Herbert, Jr., Freeport, N. Y. Unassigned. Application November 15, 1946. 3 claims.

2,539,965. PRINTING PLATE MOUNTING AND PROOFING PRESS. Machine facilitates the securing of printing plates on cylinders ready for print-

"It's a pleasure to estimate work if it's to be printed on a miller automatic"



Printing estimators like Miller presses because of the consistent, effortless performance and constant high quality which keeps the costs down and estimates accurate. A catalog giving full details will be sent without obligation. Write to

MILLER PRINTING MACHINERY CO. – 1103 REEDSDALE ST., PITTSBURGH 33, PA.

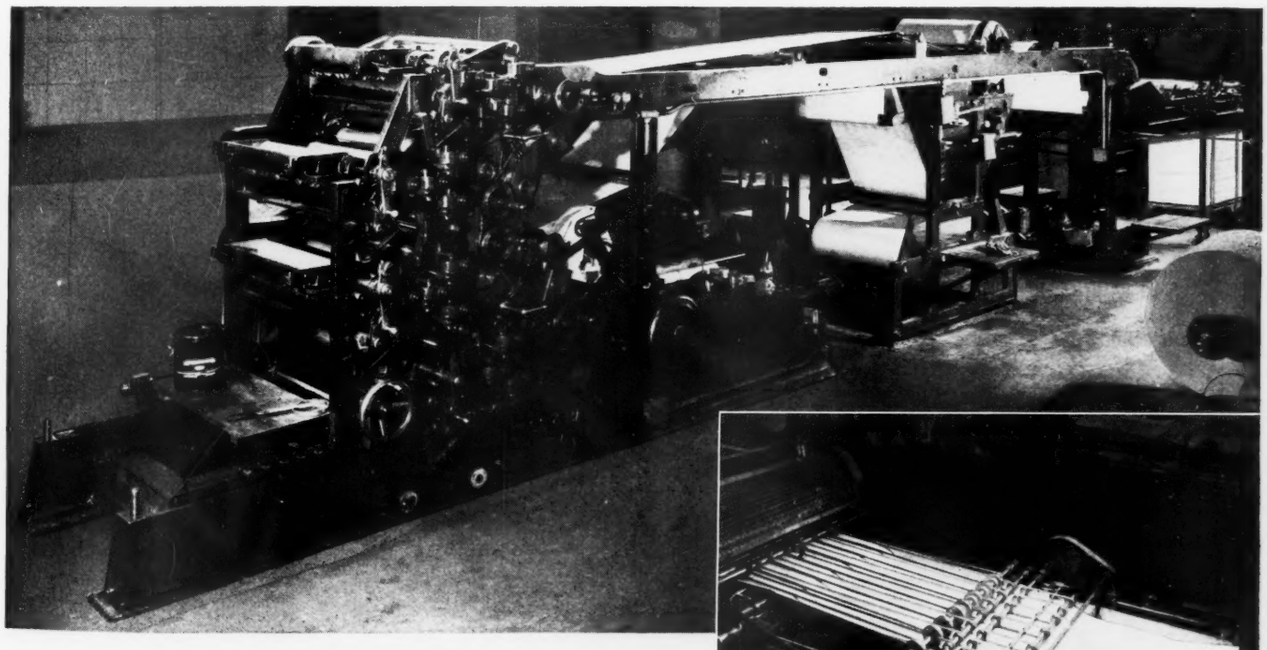
ing. A multiplicity of printing plates are mounted in accurate registry on any number of plate cylinders and are then proofed to check color register. The cylinders with plates attached may then be quickly put into a printing press with a minimum of delay. Machine includes a graduated straight edge for aligning and longitudinally spacing the printing plates. A dividing head permits circumferential spacing. Transparent adjustable indicators are slidable along straight edge which is movable against the plate cylinder. Indicators have sharply ruled hair lines to permit exact locating of plates on plate cylinder so that color registration is assured. Impression cylinder of proofing press has an eccentric throw-off to permit quick changing of plate cylinders without disturbing impression setting or proofs of previous colors. Invented by Franklin Moss, Hollis, and John F. Kirby, Jr., Baldwin, N. Y. Assigned to Mosstype Roller Co., Inc., Brooklyn, N. Y. Application December 31, 1947. 1 claim.

Discuss Engravings

Magnesium photoengravings and plastic photoengravings, the latter scanned and engraved on the Fairchild Scan-a-graver, were the topics of discussion at a recent meeting of the Club of Printing House Craftsmen of New York attended by 175. John Boyajean, John Hancock and Cornelius O'Brien, all of Fairchild Camera and Instrument Corp., discussed the Scan-a-graver and pointed out that the machine is now operating in more than 450 plants throughout the country. Speakers who discussed the magnesium plates were Keith L. Johns, Bookwalter Company, Indianapolis; William I. Frisch, Wright Company, Boston; and Dr. George H. Found and H. E. Swayze, both of Dow Chemical Co.

Star-Kimble Agency

Star-Kimble Motor Div. of Miehle Printing Press and Mfg. Co. has announced the appointment of the Baldwin Company, 2935 Lovers Lane, Dallas, Tex., as its representative in the states of Texas, New Mexico and Oklahoma.



The Easiest to Operate . . .

4 to 8 color Rotary Letterpress ever built!

The plate and packing cylinders of Hess & Barker's Press are quickly, easily and comfortably accessible with the turn of a crank. Registering plates is quick, easy and accurate because of the grooved plate cylinders. Roller adjustments are easily and exactly made with the turn of a screw. Fountain setting is easy and positive because of the open accessibility and full color is held throughout the entire job.

Send for the new 16 page booklet "At the End of the Rainbow is Your Pot of Gold".

HESS & BARKER

Printing Press and Equipment Manufacturers

212-22 South Darien Street, Philadelphia 7, Pa.

Telephone, PEnnypacker 5-4070

EXECUTIVE Cs

Louis M. Richardson, Mechanical Supt. of the Los Angeles *Evening Herald-Express* and Mechanical Supt. of the Hearst Newspapers on the Pacific Coast, died suddenly in Los Angeles on February 9. He was 69 years of age. Mr. Richardson has been associated with the *Herald-Express* for more than 45 years, starting as a pressman in 1905. Previously he had worked at the Los Angeles *Times* and other printing concerns. He had served as president of the Pacific Newspaper Mechanical Conference.

Many commercial printing plant executives throughout the country will be interested in knowing that Clarence A. Groettum, together with his son Robert C., has purchased the Ashbaugh Press, Inc., at 316 North Farwell St., Eau Claire, Wis. The firm will be operated under that name. Clarence Groettum is well known to many members of the International Association of Printing House Craftsmen. For many years he was associated with the Jansen Press in Minneapolis, Minn. Clarence Groettum is Treasurer and General Mgr., Robert C. Groettum is President, John Ashbaugh jr. is Vice President and Karl D. Love is Secretary. The firm produces a general line of commercial printing by both letterpress and offset processes. *Groettum's Sketchbook* (Vol. 1, No. 1) made its appearance in January. Size is approx. 4½ in. by 6 in. and consists of 16 pages well illustrated. Editorial content of the house organ is devoted to Printing Week, Problem of Paper, Company Personalities, Our Sale of the Month, a Showing of Corvinus type face, Let's Talk It Over with C. A. Groettum, and Employees' Section. The company has established a branch office at 225 South St., Minneapolis.

The Sunday School Times, Philadelphia, has announced the appointments of Herbert A. Fryling as Treasurer and Office Manager, and Harry J. Jaeger as Secretary of the company. Fryling and Jaeger succeed Dudley T. Richman who has retired as treasurer, secretary and director of the company after 33 years service. Fryling has been associated with the firm since 1926. Jaeger is Executive Vice President of the Sunday School Times.

Oberg Passes—Alcala P. (Al) Oberg, 63, formerly Composing Room Supt. of the Flint (Mich.) *Journal*, and Secretary-Treasurer of the Great Lakes Mechanical Conference, passed away suddenly at his home in Flint on Sunday, February 11. Death was attributed to a heart attack. Oberg was one of the most popular newspaper executives in the Great Lakes area. He was also well acquainted among ANPA mechanical executives, having attended many ANPA conferences. He was born in Minneapolis, Minn. on Sept. 14, 1887. His first work was done in Troy, Idaho, when he was 18. He returned to Minneapolis two years later and for a number of years worked at *Tidende*, a Norwegian language paper. He went to Flint, Mich. in 1934. All his working time was spent with the *Journal*. While in Minneapolis, he assisted with the training of students at the University of Minnesota who produced the student newspaper. He engaged in various other organizational activities. He had been Secretary-Treasurer of the Great Lakes Newspaper Mechanical Conference since its formation six years ago. He attended St. Paul's Episcopal Church and was

A. P. Oberg, former Composing Room Supt. of the Flint (Mich.) *Journal* and Secretary-Treasurer of the Great Lakes Mechanical Conference, who passed away on February 11.

here's how Rouse REDUCES YOUR TIME COSTS

CUT A FULL GALLEY OF MIXED MEASURES SLUGS IN ONLY 35 SECONDS

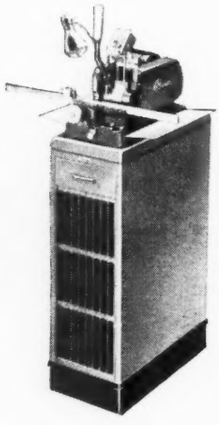
Rouse BAND SAW

No more gauge setting! No more reclamping or measuring! That's why the Rouse Band Saw offers you by far the most economical way to accurately cut slug lines to different measures in the shortest possible time. No other machine nor method can even come close to this achievement.

If you operate one or more linecasting machines on variable measure composition, the Rouse Band Saw will do the work of hours in minutes. Expensive time saved will be unusually great in work requiring frequent changes in line measures, such as ad work, catalog runaround work, etc.

CUT 1000-1200 ACCURATE MITERS IN ONLY 1 HOUR

Rouse POWER MITERER



If you need miters in either small or large quantities, no other machine nor method can turn out anywhere near as many perfect joining miters from strip material. That's how the Rouse Power Miterer can slash your time costs by doing work in minutes that now takes hours. It quickly pays for itself in expensive time saved.

From the smallest job shop up to the largest plant, only Rouse makes a Power Miterer for every type of use. Can be bought as a bench model or with any other equipment you wish.

Call your dealer today or write for illustrated folder.

Virtually every printing plant in the world uses one or more Rouse Time-Saving Products for Printers

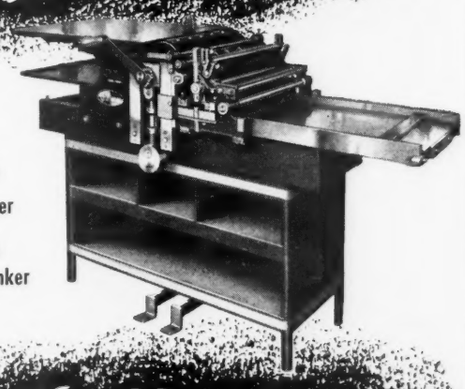
H. B. ROUSE & COMPANY
2214 N. WAYNE AVENUE, CHICAGO 14, ILLINOIS

MITERING MACHINES
LEAD and RULE CUTTERS
COMPOSING STICKS
TYPE GAUGES
SLUG CLIPPERS
BAND SAWS

ROUSE PRODUCTS—THE STANDARD OF THE WORLD FOR 50 YEARS

CYLINDER PRESS DESIGN MEANS

BETTER PROOFS



Style KP
with power inker

Style KA
with automatic inker

Challenge® SERIES K PROOF PRESSES

Style K
with ink plate . . . or 20" Power Ink Distributor (extra)

660

The name "Challenge" is the trade mark of *Cylinder Press Design* in all three styles of Series K Proof Presses. Each has a revolving cylinder with reciprocating bed on anti-friction rollers to produce clean, sharp proofs. Sheets are fed to cylinder grippers and micrometer side guide. A foot trip prevents offset on the packing during the return stroke. Grippers may be opened at any position of the cylinder. Two sizes handle anything from an ordinary galley proof up to 14½ x 23" or 19½ x 23½". All models equipped with sliding feed board, delivery board and zinc galley plate. Get details today!

THE CHALLENGE MACHINERY CO.

Office, Factories and Show Room: Grand Haven, Mich.

Challenge TRADE MARK (R)

Over 50 Years in Service of the Graphic Arts

DEALERS IN ALL PRINCIPAL CITIES

a THOUSAND users can't be wrong

IN only five years over a thousand JCM Semi-Automatic Collating and Tipping Machines have gone into production for printers all over the United States and many foreign countries.

The reason for this popularity is simple . . . this machine does a job in the production of carbon interleaved forms unequalled by any other similar piece of equipment.

The fast, measured application of just the right amount of glue at the desired spot on the sheet speeds assembly of forms which are firmly attached. You will have no complaints from customers that glue tipped forms come apart during use. Join this select group of profit making forms producers. *Write Dept. J-3 for complete information.*

© 1951 J. Curry Mendes

J. CURRY MENDES
CORPORATION
104 BROOKLINE AVE. BOSTON 15, MASS.
538 So. Clark St. CHICAGO, ILL.
22 East 39th St. NEW YORK, N. Y.

active in the Elks. He was married in 1928 in Minneapolis to Olive Underwood, who survives. He also leaves a son, Arthur, and a sister, Mrs. E. F. Gilfoy. Burial occurred in Minneapolis after services in Flint. Oberg was physically unable to attend the recent South Bend Great Lakes Conference in January. He was re-elected Secretary-Treasurer. He was also given an assistant, Don Clark, Stereotype Supt. of the Grand Rapids (Mich.) *Press*, who will function as Secretary-Treasurer until such time as a selection can be made.

United States Public Printer John J. Deviny has announced the voluntary retirement of Raymond H. Lecraw after 38 years of service with the Government Printing Office. Lecraw has served at the GPO in such capacities as assistant foreman and foreman of the Monotype Section, assistant superintendent of composition, assistant production manager, and night production manager. During World War II, he headed the Commercial Planning Div. which was charged with the procurement of essential war printing. His last position, that of Consultant on Methods and Procedures, involved study and review of all GPO equipment and operations with the aim of recommendations for improvement. Lecraw has also served on numerous research committees of the cooperative research program established by the GPO and Printing Industry of America, as well as the executive committee of the Research and Engineering Council. He is a member of the Washington Club of Printing House Craftsmen.

Col. Gordon B. Welch has been elected President of Davidson Corporation, a subsidiary of Mergenthaler Linotype Co. Colonel Welch has been associated with the Linotype organization since 1946, at which time he became president of Linotone Corporation, a Linotype subsidiary. He joined the parent company in 1948 as director of research. Many new Linotype products have been developed under his guidance, the most prominent of these being the Blue Streak Comet and the ML Quadder. A graduate of the University of Kansas, Welch joined the regular Army in 1916 and rose to the rank of Colonel with Army Ordnance. He was honored, during World War II, for his work in engineering and production and holds the Legion of Merit metal. He will make his office at the headquarters of Davidson in Chicago.

H. E. Brundage, President of Cline Electric Mfg. Co. has announced the appointment of G. R. Dayton as General Sales Manager with offices at the Cline plant in Chicago. Dayton was formerly assistant sales manager in charge of Cline's Central and Western Districts, having previously represented General Electric in the printing field. Announcement was also made of the addition to the Chicago sales staff of R. H. McLarn jr., and to the New York staff of C. M. Keeter, formerly of Westinghouse and the U. S. Army Engineers; also the addition in New York of W. E. Keightley as Sales Engineer. C. W. Burger is now Manager of Western Sales with offices in San Francisco.

Louis Cheskin has been elected President of Color Research Institute of America, succeeding George D. Gaw, Director from 1945 to 1951. Gaw will now devote himself entirely to the Direct Mail Research Institute. Cheskin is the author of several books on color and design, including *Color for Profit*. He is also the originator of a system for test-rating advertising and marketing material and is the inventor of the Cheskin Color System used in the printing industry.

Warren M. Cassell has been appointed Technical Consultant on Gravure Reproduction for *Seventeen* magazine. Cassell, formerly technical adviser in charge of East Coast sales for the Graphic Arts Div. of Ansco, will be in charge of all advertising production. He is former president of the Philadelphia Photo Engravers' Technical Society.

Tipping Machine Patent

A. W. Robertson, Treasurer of Robertson Brothers, Inc., reports that U. S. Patent No. 2,503,984 was recently granted on the Simplex Tipping Machine. The range of sheet sizes handled by the machine extends from 3 in. by 6 in. to 9 in. by 12 in. Paste is applied by a rotary arrangement.

Engraved on Imperial Zinc

S-T-R-E-T-C-H

● "Stretch" in zinc occurs when the sheet is "burned in." Like all metals, zinc is made up of a mass of crystals. In the rolling process these microscopic crystals are fractured. But zinc differs from other metals in one important respect. When zinc is heated above 300°F, the crystals grow together and in so doing, actually grow larger. A sheet of zinc after "burning in" is larger than before. The maximum growth of the crystals always occurs in the direction in which the sheet is rolled.

One of the many advantages of the Imperial Register Redibak process is that in applying Redibak after rolling, Imperial Zinc is heated to a point where objectionable stretch is prevented.

Users of Imperial Zinc avoid size variations or "stretch" as they "burn in" their flats.

Imperial Zinc

A Product of

IMPERIAL TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS *Exclusively*

PHILADELPHIA 34 • NEW YORK 7 • CHICAGO 50

BOOKS

The Genesis of Machine Typesetting

ONE of the prize publications of recent issue is *The Genesis of Machine Typesetting*, compiled and edited by Frank M. Sherman, Executive Director of the Intl. Type Composition Association. The booklet (it's almost a full-blown book) was published by M&L Typesetting & Electrotyping Co. President Lester A. Neumann of M&L, really has explained the purpose of *The Genesis of Machine Typesetting* in his dedicatory remarks, in which he states: "This book is published . . . in the hope that the facts and history pertaining to the development of typesetting machines that have played the major role in the development of the type composition industry will be preserved."

The book is divided into five sections and four well known men participated in writing the text. The first section, *Early Inventions for Mechanical Typesetting*, *History and Development of the Monotype Machine*, and the *Appendix—Steps in the Evolution of Mechanical Typesetting*, were prepared by Frank Sherman. *History and Development of the Linotype Machine*, was prepared by Harry L. Gage, formerly vice president of Mergenthaler Linotype Co. The section entitled *History and Development of the Intertype Machine*, was prepared by Vice President and Chief Engineer Herman R. Freund of Intertype Corporation. The *History and Development of the Ludlow Typograph* was prepared by the late Fred H. Dunham of Ludlow Typograph Co.

The book, by physical comparison with John S. Thompson's *History of Composing Machines* and Legros and Grant's *Typographical Printing Surfaces* bears about the same relationship as a bantam rooster to a turkey gobbler. But we are pleased to say that the text prepared by Messrs. Sherman, Gage, Freund and Dunham has been compacted for easy reading—all nonpertinent matter having been eliminated.

There are 36 illustrations in the book; size is 6 in. by 8½ in., 60 pages, saddle-stitched in cover paper.

It is related in the Foreword by Mr. Sherman that the several stories . . . in the book originally were told to students of the classes in printing at Wentworth Institute, Boston, in February 1935. Mr. Sherman also makes it plain that the context of the book does not bring the development of the various models made by the several companies up to this date—1950.

Information about impracticability of some of the machines and the competitive conditions which faded some of the inventions from the technological picture in the industry are given. This type of information helps the reader to a better understanding of the progress made over the years in typesetting devices.

Lester A. Neumann, President of M&L Typesetting & Electrotyping Co., 4001 Ravenswood Ave., Chicago 13, Ill., tells *Printing Equipment Engineer* his company will be happy to furnish copies to Craftsmen Club libraries, printing schools and public libraries.

Theory and Practice of Presswork

THE Government Printing Office has released a second volume in its Apprentice Training Series entitled *Theory and Practice of Presswork*. The 248 page text was written primarily for specific use in the initial training of apprentice pressmen at the GPO. However, the fundamental information contained in the book concerning presswork will be of value to other apprentice pressmen, printers, printing students, and others interested in that field.

Arranged in orderly teaching units, with suggested projects and supplementary readings, the text contains a simple approach to up-to-date information on platen and cylinder presses. It covers fundamentals of plate imposition, selection of paper and ink, setting and care of rollers, packing of presses, make-

FOR THE Right IMPRESSION
Check this complete line of press packing which offers the proper gauges or combination of gauges for every press condition.
COMBINO—An extremely durable clean printing laminated blanket. Gauges .062", .083", .093".
"TINGUE" COATED FELT—For those who prefer a softer packing than COMBINO. Gauges .083", .093".
UNCOATED WOOL FELT — Gauges .063", .072", .083".
TOP Drawsheet is firm, durable, economical and of long life. Gauges .016", .025", .030".
GOLD TYMPAN Drawsheet—An old favorite for flat bed presses. Gauge .012".
IMPROVED SATISFACTION — A fabric impregnated with "Neoprene" and coated with "Calvaprene." Gauges .024", .026".
STERLING — The latest plastic drawsheet. Gauge .025".
CUSHION CORK*—A highly resilient underpacking. Gauges .059" to .085".
TINGUCORK*—Much firmer than "CUSHION CORK" and preferred where precision plates are available. Gauges .032", .055" to .086".
KORKER* — Under blanket for older type presses or where an unfavorable mechanical condition exists. Gauges .058" to .070".
FOUNDATION — A firm, durable oilproof under packing laminated by duPont with "Neoprene". Gauges .032", .040", .053" to .085", .120"".
*Reg. U.S. Pat. Off.
TINGUE, BROWN & CO.
TINGUE
PRINTING PRESS BLANKETS
723 E. Washington Blvd., Los Angeles 21, Cal. PRospect 6023
507 Bishop Street, N. W., Atlanta, Ga. ATwood 3864
1227 Wabash Avenue, Chicago 5, Ill. HArrison 7-0083
1765 Carter Avenue, New York 57, N. Y. CYpress 9-8800
CANADIAN SALES AGENTS ROSS WHITEHEAD & CO LTD MONTREAL CAN

ready, and the operation of feeding, printing and delivery mechanisms.

More detailed chapters involve the adjustment of Kluge feeders and the mechanism of Miehle Vertical presses. Other chapters include preparing type forms for press, the development of various presses, cleaning pressroom equipment, and printing illustrations. The complete text is intended to acquaint the apprentice with the principle points of operation in letterpress presswork.

Theory and Practice of Presswork—Issued by John J. Deviny, Public Printer of the United States. Book consists of 248 pages; size, 6 in. by 9¼ in.; gray linen cover with blue stamping. May be ordered from Supt. of Documents, U. S. Government Printing Office, Washington 25, D. C. Price, $1.50 per copy.

Modern Silk Screen Printing

THE 28 page booklet *Modern Silk Screen Printing* by Victor Strauss is a reprint of an article prepared for the Ninth Graphic Arts Production Yearbook. Weitten as an aid to the buyer in understanding the variety of effects obtainable by screen process printing, the booklet's 40 chapters deal with such subjects as blends, the carbon tissue method, copy requirements, drying time, four color process, production volume, and varnishing. It is also explained how flat and glossy inks can be combined with bronzes and opaque white to obtain unusual results.

More than 50 illustrations accompanying the text have been prepared by Edith Strauss and provide detailed information about all aspects of the process. The frontispiece is a ten color screen process print of a Christmas card, originally printed for *Seventeen* magazine.

Modern Silk Screen Printing—by Victor Strauss. Book consists of 28 pages; size, 7½ in. by 10½ in.; soft cover. May be ordered from Pied Piper Press, 225 Lafayette St., New York 12, N. Y. Price, $1.50 per copy.

Screen Process Printing 1951

METHODS, procedures and equipment used in screen process printing over the past two decades compose the text of the 92 page British book entitled *Screen Process Printing, 1951.* Twenty-two chapters carry the reader from planning the art work to descriptions of representative types of screen process presses.

Topics included in the book are a printing buyer's viewpoint, adaption of screen process from lithographic prints where original plates are not available for a reprint, review of stencil methods, and combination printing. Others deal with modern hand-printed wallpaper, halftone and tri-chromatic printing, the use of type, printing on unusual materials, hand-drawn positives, and the inks used in the process.

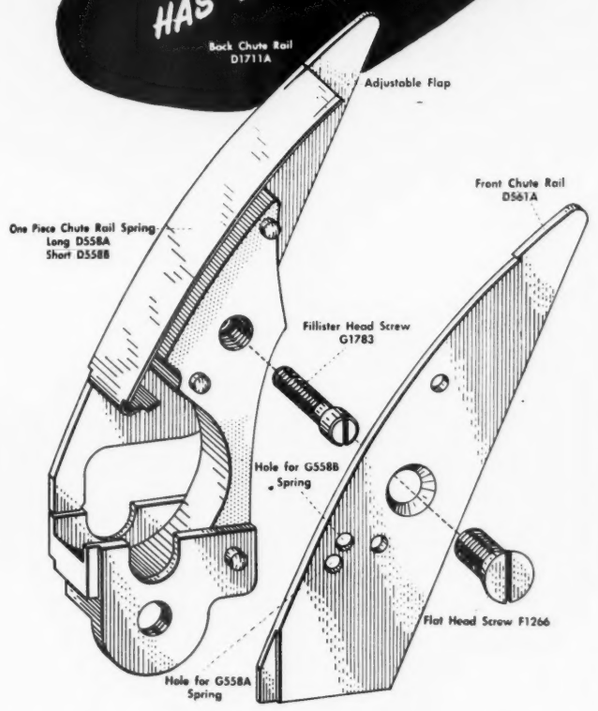
Of interest to many letterpress printers' in this country will be the chapter devoted to viewpoints of the process as interpreted by his British counterpart. In this portion of the book, the author, a man credited with 25 years experience in letterpress printing, answers some questions which have perhaps plagued other letterpress printers who have considered installing the silk screen process in their plants. These questions include: Does screen process printing deprive me of some of the orders which should be mine? Can I use it to assist me in the production of certain classes of work? Should I install my own plant? Will eventual mechanization make it a major competitor?

Concerning the installation of a silk screen department by the letterpress printer, the author states that "the trend today seems to be in the direction of specialization. Firms concentrate on the work that comes most easily (or shows the greatest profit), and employees (by reason of trade union practice) become adept at one particular branch of a craft."

In regard to mechanization increasing competition, the author has this to say. "Heavy deposits can be very effective on much of the work so far undertaken by silk screen, but mechanization will assuredly mean that work of a more delicate nature will be attempted and here the minimum film will be essential, not only aesthetically but also technically, if drying is to keep pace with printing speeds."

Screen Process Printing 1951—Edited by F. W. Mackenzie. Book consists of 92

THE POPULAR "STAR" IMPROVED ASSEMBLER CHUTE BLOCK and RAIL ASSEMBLY HAS 2 NEW FEATURES


Back Chute Rail D1711A
Adjustable Flap
Front Chute Rail D561A
One Piece Chute Rail Spring Long D558A Short D558B
Fillister Head Screw G1783
Hole for G558B Spring
Flat Head Screw F1266
Hole for G558A Spring

1. **EASIER SPRING INSTALLATION.** Block and Back Rail held in place by assembler plate by G-1783 screw while front rail is removed.
2. **QUICKER STAR WHEEL REPLACEMENT** now can be made without removing the block.

Assembly Part No. M-19

(Write for detailed folder)

ACE BELTS
. . . made to last longer without stretching

PRECISION
TRADE ★ MARK

LINOTYPE PARTS COMPANY
INCORPORATED
Factory and Main Office
SOUTH HACKENSACK, N. J.
Branch Office: 1327 BROADWAY, KANSAS CITY 6, MO.
CHICAGO • MINNEAPOLIS • DENVER • NEW YORK • BOSTON

Get a good run for your metal money... buy **Blatchford**

When you put your good money into metal, be sure you get a good run for it . . . both ways – in quality and quantity.

Buy Blatchford . . . made to make good impressions, whether you print a few repro proofs on coated or run newsprint by the mile.

Blatchford Metal contains the stuff of which good type, slugs and plates are made—clean lead, tin and antimony – alloyed with nearly a century's worth of metal-handling know-how.

In the composing machine or the plate-caster, Blatchford melts smoothly, flows freely, molds true to the mat or matrix.

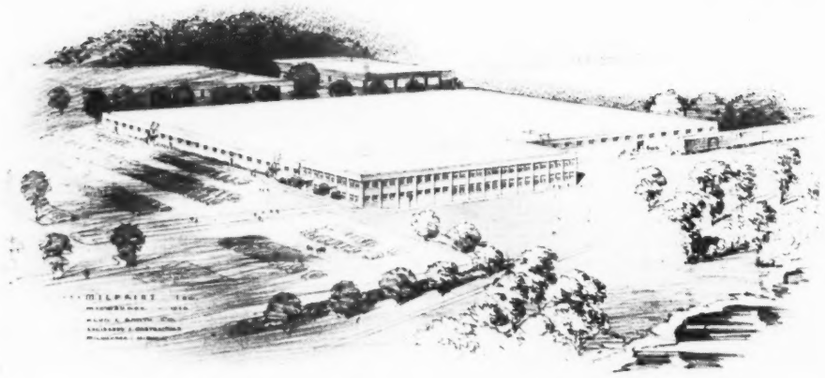
On the press, Blatchford has the guts to stand the grind of long runs, to turn out page after page, sheet after sheet, of clean, crisp printing.

Blatchford Metal is made in compositions to precisely fit all casting machines – single type, slug or plate.

Buy Blatchford – it gives you *good* runs for your money.

NATIONAL LEAD COMPANY – Atlanta, Baltimore, Chicago, Cincinnati, Cleveland, Dallas, Philadelphia, Pittsburgh, St. Louis; New York: E. W. Blatchford Co.; New England: National Lead Co. of Mass., Boston; Pacific Coast: Morris P. Kirk & Son, Inc., Los Angeles.

Blatchford
is the NATIONAL name for dependable metal . . . and for "Honeycomb" base.



Milprint, Inc., Milwaukee, Wis., producers of packaging materials and printing, plan to erect a new plant in that city. The accompanying illustration is reproduced from the architect's sketch. Engineers and Contractors are Klug & Smith, Milwaukee. Detailed information is not available at the moment.

pages plus numerous examples of screen process printing; size, 7½ in. by 10 in.; pebble-board cover coated with black Vinylite resin with gold lettering and black plastic comb binding. May be ordered from Skinner and Wilkinson, 6 Gloucester Ct., Headstone Dr., Wealdstone, Middx., England. Price, $3 per copy.

Please take a look at your address on the wrapper in which *Printing Equipment Engineer* is sent to you at your place of employment. If it isn't correct, please tell us about it on a postcard.

Printer's Future

(Continued from Page 26)

ing consumer was producing in his own plant at approximately half the cost of purchasing from the outside vendor. In spite of the apparent savings indicated by the production of the entire printing needs within the private plant of the consumer, we recommended that such a course not be followed because of other considerations which might have a detrimental effect on the overall operations of the company.

It is interesting to note, however, that a private plant can be operated just as efficiently as a commercial plant. While it is true that many private plants have turned out to be white elephants, it is equally true that many commercial plants through mismanagement have become insolvent. Unless the commercial printer has some sound specific argument for producing his customer's needs, he is in danger of losing out to the private plant of his customer. The printer faces the unhappy prospect of developing an account which eventually will attain the size where it may become interesting to the customer to develop his own printing department.

Specialty Plant Competition

The second source of indirect competition which the general commercial printer faces is the specialty plant. During the past two years, we have conducted a survey of book printing to determine where the break-even point occurs between single step equipment, such as the ordinary sheet fed, flat-bed letterpress, and integrated equipment, such as the press which receives a web at one end and delivers folded signatures at the other.

While it is impossible to set up a definite break-even point for the industry, it is interesting to note that averages obtained from a number of printers indicated that for letterpress production the break-even point was approx. 50,000

UP Output.... CUT Costs.... and "WIN the Peace"

CALLING...ALL OLD MODELS
Calling *In* All Old Models

Calling the 13,000 owners of old model BAUMFOLDERS (purchased prior to 1940) . . . to exchange them for the modern models . . . from the amazing NEW "Junior Jets" (14x20 and 17x22) to the most versatile Folder ever designed . . . (15 folding sections . . . more than any other Folder ever built) . . . 30x46 . . . 60 . . . BAUMFOLDER.

Of course, your old Model BAUMFOLDER is undoubtedly giving you good folding and isn't worn out . . . BUT, to cut operating costs to the bone . . . to increase folding profits to the "tree-tops", investigate the greater production, greater versatility and latest time-saving features of the MODERN MODELS.

Even if you have long since written the investment off your books . . . and even though your BAUMFOLDER has paid for itself many times over, we invite you to allow us to surprise you by the high price at which we will buy it back . . . AND the LOW price of the Modern Miracle, Many-Purpose, Many-Profit Automatics . . . No cash involved . . . just MODERNIZE and pay part of the greater profit . . . from this point on.

If you knew all the FACTS, we are SURE you would WANT to.

RUSSELL ERNEST BAUM, INC.
615 CHESTNUT STREET • PHILADELPHIA 6, PA.

UP Output.... CUT Costs.... and "WIN the Peace"

BETTER ORDER YOUR BOOTH'S ZINK CUT CEMENT TODAY

Yes, indeed! It's time right now to order your *Booth's Zink Cut Cement.* For cut-mounting and solidifying type elements for standing ads, there just isn't any better method than using *Booth's Zink Cut Cement.* Mounts cuts quicker, holds them tighter. It really sticks. In use all over the country by leading shops and by superintendents who want to cut costs.

Prices: 75c per tube, $6.00 per dozen in the United States.

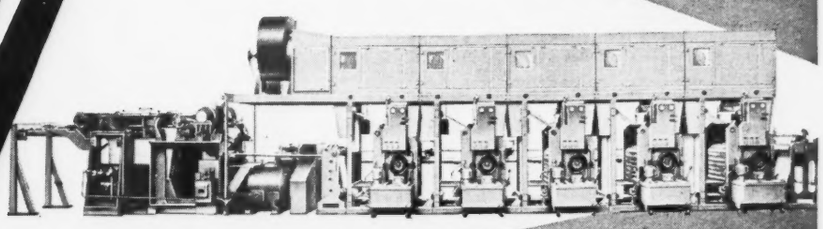
E. A. BOOTH RUBBER CO.
2855 Scarboro Road • Cleveland Heights, Ohio

Establishing new standards for high speed rotogravure printing of Publication Inserts . . . Folding Cartons . . . Wrappers . . . Labels . . . The Sperry 1000 is the star performer for profitable, high quality work, day in and day out.

The Sperry 1000 will give you competitive superiority.

Depending upon your production problems, you may want to equip with the Sperry Sheeter, Rewind, or Rotary Blanker . . . each designed to handle high speed output.

speed



The SPERRY 1000 roto printer

Specifications:

- **Width: 26" to 42"**
- **Circumference (Maximum): 46"**
- **High Speed: Designed to run at 1,000 ft./min.**
- **Heavy Duty: Rugged construction for continuous operation —built to the standards of a full form publication press.**

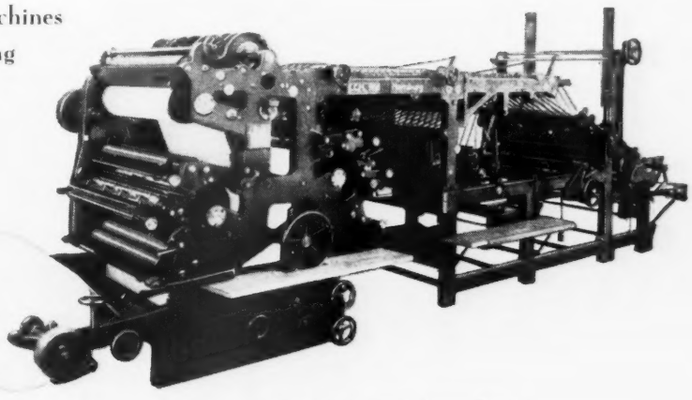
For complete information, please write to:

FORD INSTRUMENT COMPANY

Division of The Sperry Corporation
31-10 Thomson Avenue
Long Island City 1, N. Y.

Amsterdam Continental says . . .
for every ruling job, if you want it fast and economical
there's a way *where there's a* Will

Will Rotary Ruling Machines
provide roll-fed, two-side web-ruling
and cross-ruling, cutting, folding,
counting, cover inserting
and, if desired, stitching
all in one operation!
Can accommodate
up to 8 perforating heads.
Unique *unified operation*
saves time, cuts costs,
speeds production.
Write for full data.

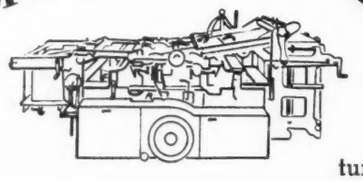


This ad set in Studio Egmont Family

Amsterdam Continental
Types and Graphic Equipment Inc.

268-276 Fourth Avenue, New York 10, N. Y.

"It's a pleasure to own a miller automatic"



Modern Miller presses and competent pressmen afford the owner opportunities to compete. Low costs, profitable prices, and quality work can be assured with Miller presses.

Literature on all Miller presses is available. Write to

MILLER PRINTING MACHINERY CO. – 1103 REEDSDALE ST., PITTSBURGH 33, PA.

i.p.h. and for offset production about 20,000 i.p.h.

One important factor, of course, is the cost of manufacturing curved electros. The gradual improvement of rubber plates for book printing has considerably reduced the effect of this factor. In fact, most improvements in the industry have tended to depress the break-even point so that if the trend continues we may expect in the rather near future that all publications of more than 20 or 30 thousand circulation will be produced by the integrated type of equipment.

If the publisher finds his circulation increasing, the printer may look forward to the eventuality of circulation reaching a point where it cannot be produced economically on any equipment which he possesses. Since the general history of publications seems to be either to grow or to die, the outlook for the book and publication printer not equipped with modern machinery is not cheerful.

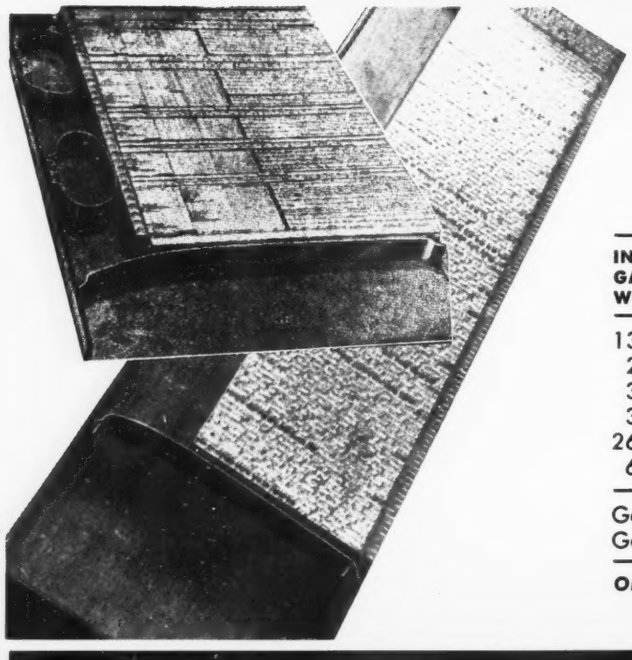
While the book industry has been chosen as an example, we might cite any one of the number of others. There is, at present, in operation in some banks an imprinting machine, the use of which permits the bank to set the imprint and print a book of 50 checks while the new customer is opening an account. Such equipment is a boon to the banker not only because he can make a small profit on the book of checks, which he would ordinarily give away, but because of the time saved in the check sorting department of the bank. Here the printed name greatly simplifies the work of a staff which might otherwise have to depend on the deciphering of semi-legible signatures.

Economy Minded Printers and Customers

During the summer of 1949, at which time the country generally was tending to become economy minded, the effect of specialized equipment began to make itself apparent in the general commercial printing picture. High cost printers had begun to feel the effect of competition and were reappraising their manufacturing equipment and methods as a first step towards cost reduction.

A number of large printing consumer companies who had likewise become

A MUST FOR EVERY COMPOSING ROOM



RIEHLOCK
GALLEY LOCKS

SAVE TIME — SAVE MONEY
GALLEY END LOCKS

INSIDE GALLEY WIDTH	PER 100	INSIDE GALLEY WIDTH	PER 100	INSIDE GALLEY WIDTH	PER 100
13 pica	$ 8.96	6¼ in.	$11.20	10 in.	$13.44
2¾ in.	8.96	7½ in.	11.20	10½ in.	13.44
3½ in.	8.96	8½ in.	13.44	11½ in.	15.68
3¾ in.	8.96	8¾ in.	13.44	12 in.	16.80
26½ pica	11.20	9 in.	13.44	12¾ in.	20.16
6 in.	11.20	9½ in.	13.44		

Galley Side Locks	8 in.	$ 8.96
Galley Side Locks	12 in.	13.44

Order by inside galley width 20% higher in less than 100 lots
Minimum order 25 of any one size

The RIEHL GALLEY LOCK CO.
1312 ONTARIO STREET CLEVELAND 13, OHIO

A Suitable Flux is a money saving MUST

for every user of type metal

CLEANOTYPE
Dry Powder-type flux
5 lb. container

VITAFLUX Wax-type flux
Carton of 12 sticks

Choose the Imperial flux that suits you best

• Before skimming the dross from molten type metal, use a good, economical flux to melt down the metallics or shotted metal.

Imperial *Vitaflux* comes in handy size, graduated sticks and is added to the pot in proportion to the melt.

Imperial *Cleanotype* flux, because of its powder form, is preferred by some for large pot areas.

Both of these Imperial fluxes have many followers. One of them is exactly right for your needs because either will reduce the amount of your dross.

Ask the Imperial Man to check your remelting methods the next time he calls. Meanwhile, write us for full information on Imperial fluxes.

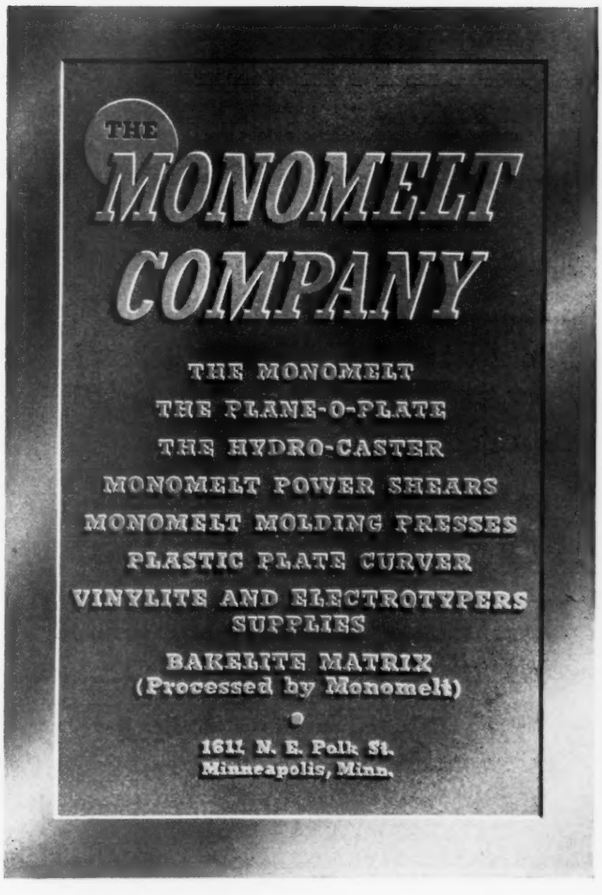
Imperial
TYPE METAL COMPANY
SERVING THE GRAPHIC ARTS *Exclusively*
PHILADELPHIA 34 • NEW YORK 7 • CHICAGO 50

Ads take on a NEW NOTE of GAIETY

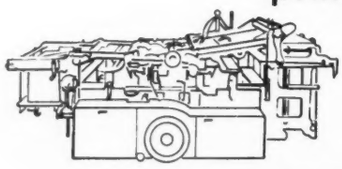
Spring at hand . . . summer in the offing. Newspaper readers survey with outspoken joy the advertising pages that they have, perhaps, scanned only at the spur of utility . . . Informal attire, sports equipment, gardening paraphernalia, aids to boating, bathing, picture taking share in this lure.

Photographic illustration must speak in tones of vivacity. It must have the best aids to faithful reproduction, including the clarity that Certified Mats offer to the stereotyping process.

For dependable stereotyping, rely on Certified Mats
Certified DRY MATS
CERTIFIED DRY MAT CORPORATION, 9 Rockefeller Plaza, Dept. M, New York 20, N. Y.



"It's a pleasure to sell work printed on a miller automatic"



Salesmen know that they can be sure of quality printing at fair prices when work is produced by competent pressmen on Miller Automatic Cylinder Presses. Let our salesmen prove these points. Write to

MILLER PRINTING MACHINERY CO. – 1103 REEDSDALE ST., PITTSBURGH 33, PA.

savings conscious, were making replacements in personnel and graduates of printing courses were finding positions with these companies at agreeable salaries. It had been a long established custom for such firms to engage graduate engineers to purchase such items as metals and other raw materials. The purchasing agent in charge of printing supplies was, in most instances, someone whose knowledge of printing had been acquired solely from the printing salesman through a course of instruction conducted at his desk. Such education was somewhat less than comprehensive.

Just as it began to appear certain that the mortality among ill-equipped and high cost printers would reflect a sudden rise, the Korean crisis brought about another kaleidoscopic change. The competition which for 12 months had increased, suddenly showed signs of disappearing. The printer became more concerned about being able to obtain materials than customers. New signs pointed to another sellers market during which the printer who could obtain paper could sell printing regardless of his production costs and the antiquity and inefficiency of his equipment and methods.

Equipment Buying

Manufacturers of printing equipment because of the scarcity of materials found their production schedules interrupted to the point where it became impossible for them to give either a firm price or a definite delivery date. As a consequence of this chain of events, we have witnessed a panic inspired demand for second hand equipment. Over a period of six months, we have witnessed the dollar demand for some such equipment pretty nearly double.

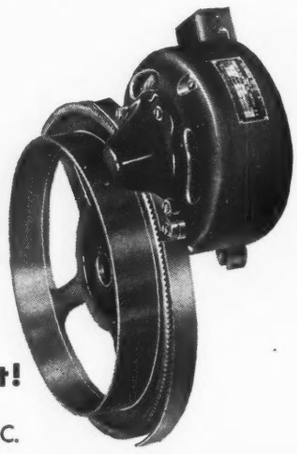
It is altogether likely that over the period of defense preparations immediately ahead of us, the duration of which no one can foretell, we will witness a continued sellers' market in the printing industry. In spite of this, it is our present policy in advising clients on the purchase of printing equipment to be guided by the long-term rather than the short-term view. We do not believe that equipment should be purchased unless it meets such a long-term test. The basis for this policy

a GREAT motor...

(FOR LINOTYPE OR INTERTYPE)

backed by almost sixty years of experience

the CUSHMAN OFFSET MOTOR



...still lower in cost!

CUSHMAN ELECTRIC CO. INC.

Associated with

PRECISION TRADE ★ MARK

LINOTYPE PARTS COMPANY

INCORPORATED

Factory and Main Office

SOUTH HACKENSACK, N. J.

Branch Office 1327 BROADWAY, KANSAS CITY 6, MO.

CHICAGO • MINNEAPOLIS • DENVER • NEW YORK • BOSTON

BEVERIDGE Says:

"More and More Stereotypers are Switching to BEVERIDGE MATS."

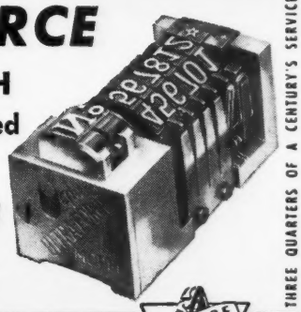
It's true that more and more stereotype superintendents are switching to BEVERIDGE MATS. They try 'em, they like 'em and they standardize on 'em. We can tell you that this swing to BEVERIDGE is due to the uniformity and quality of BEVERIDGE MATS and the service that goes with them. But you really have to experience using them to understand what we mean. Just drop a postcard telling us you want to try BEVERIDGE MATS and determine whether they are best for reproducing details and making clean cut impressions. We'll do the rest.

New Products Division

The Beveridge Paper Company

Indianapolis 4, Indiana

ULTRA-FORCE
TYPOGRAPH
for Platen and Flatbed
Cylinder Presses
PRECISION PERFORMANCE
Write for catalog J



THREE QUARTERS OF A CENTURY'S SERVICE
WM. A. FORCE
& COMPANY, INCORPORATED
216 NICHOLS AVENUE, BROOKLYN 8, N. Y.
The FORCE Line of NUMBERS

The R & B
EXTENSION DELIVERIES
for MIEHLE, BABCOCK, PREMIER and other presses
•
AUTOMATIC PAPER LIFTS
•
Special purpose equipment for the Graphic Arts Industry
CONSULT US ON YOUR PARTICULAR PROBLEM
THE RATHBUN & BIRD COMPANY, INC.
DESIGNERS AND MANUFACTURERS • FOUNDED 1898
DEPT. PE 379 WEST BROADWAY NEW YORK 12 N. Y.

is our conviction that the small, well-equipped shop is always a better plant than the large shop equipped with machinery which will be obsolete as soon as the manufacture of printing equipment returns to normal.

Guides for the Printer

We believe that during the present emergency the printer should be guided by the same sound principles which should govern policies during ordinary times. He should make a thorough analysis of the nature of printing which he is currently engaged in producing and compare his costs with the estimated costs on optimum equipment.

He should then inaugurate a program for replacing high production cost equipment with equipment which will produce at lower costs and should adhere to this program unless more unusual conditions clearly dictate a departure. Such a course of procedure, we believe, will not only serve him best in the immediate future, but will leave him in a position to meet the competitive market which is sure to follow the present emergency.

Name Change

The name of the parent company of American Type Founders, Inc., and American Type Founders Sales Corp., was changed recently from ATF Incorporated to Daystrom, Incorporated. The company announced that this change has no effect on the operations, products and services of American Type Founders. The use of the trademark will apply exclusively to American Type Founders, its equipment and activities in the Graphic Arts, it was reported.

SNPA

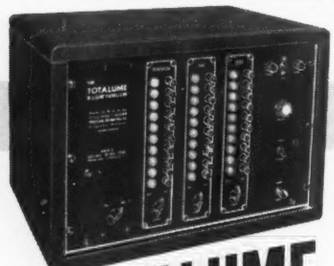
(Continued from Page 33)

purpose of visually inspecting the separations to determine if they are color correct for printing purposes.

He explained in some detail the control methods used in the stereotype department to secure accurate color plates, and

35
YEARS EXPERIENCE
Designing
• Newspaper and
• Printing Plants
• New Plants
• Remodeling
• Production Studies
• Survey and Reports
• Materials Handling
Morton L. Pereira
and Associates
Engineers and Architects
100 West Monroe Bldg., Chicago 3, Ill.

The Single Color
Offset Press
By I. H. SAYRE
Price $6 per copy
Because of the small handling margin please enclose cash with order
Printing Equipment Engineer 1276 West Third St. Cleveland 13, Ohio.
THE PURPOSE of this book is to offer a detailed technical explanation of the operation of the small single color offset printing press. It also carries recommendations for approved methods of printing technique and press care which apply to all offset printing. Much of the technical operating information applies to all makes of small offset presses. Should be in the library of all executives interested in offset printing.
Section I deals with Harris offset presses.
Section II deals exhaustively with materials used in offset printing.
Section III deals with ATF's Webendorfer single-color offset presses.
Generously illustrated with 99 figures in line and halftone; 284 pages; size, 6 in. by 9¼ in.; bound in blue cloth, cream stamped lettering.

FOR YOUR CAMERA
You Need A
TOTALUME
it CONTROLS
EXPOSURE
The Only
Light Integrator
Fully Electronic
no Mechanical Wear
Push Button
setting for
simplified control
Guaranteed
±.02 Density
START
RESET
Automatic
Re-Setting
As easy to
operate as an
Adding Machine

The TOTALUME
It's 1st for Predetermined negative density
For Information write to
PRECISION ENGRAVING CO.
EQUIPMENT DIVISION - P-
P. O. BOX 191, FERGUSON STA., ST. LOUIS 21, MO.
DISTRIBUTED THROUGH THE LEADING
SUPPLIERS TO THE GRAPHIC ARTS

also methods used in the pressroom to get ready for a color run.

Dallas Non-Process Color Method

Homer Green, Manager of Dallas' Wilson Engraving Co., made a report on the fast non-process method of color photoengraving employed by his firm for Dallas newspapers. The results secured have attracted national attention. Wilson works with and does engraving work for the Dallas *Morning News* and the *Times-Herald*. The technique is based on the mixing of inks and close planning of color work with the artist.

Mr. Green stated: "To get results with speed, emphasis is placed on the artist's design, taking into account the final effect sought, the printing problem of the newspaper and the avoidance of precise and exacting register." He displayed a number of tear sheets from Dallas papers and explained the color evolution of a number of the advertisements, including some color advertisements which have received awards.

Plant Maintenance System

Plant Engineer Robert Harrison of the Dallas *News*, discussed the value and use of a card-calendar filing system in use in his plant to insure execution at proper intervals of routine maintenance duties.

Harrison supervises a staff of 14 people. His department is responsible for the care and maintenance of the General Electric Electronic Press Controls, presses, stereotype, air-conditioning equipment and boilers, as well as all electrical mechanical, plumbing and carpenter work and other miscellaneous maintenance operations.

Continuing, Mr. Harrison said: "At the present time our routine maintenance file contains 446 cards in three colors. The cards are arranged one behind the other and are separated by tabbed dividers. Dates correspond to weeks on the dividers.

"The latest date is the card in the front of the file. Each card works its way forward. As soon as a service has been completed, it is entered on the card. The card is then replaced in the file for another date, Thus it will work its way forward again in two months, six months, or whatever dart for which an operation is scheduled.

"The cards are furnished in white and colors, as follows: The white card is for weekly maintenance attention, pink for monthly or bi-monthly attention, and orange for semi-annual or annual attention.

"This system," he said, "prevents forgetting any possible routine operations such as oiling, greasing, dusting, filter replacement, and so on."

Harrison also explained that "In another file we keep a service record. The cards provide complete information about all service done anywhere in the *News* building.

"Service information includes, in addition to date and time, such items as Who called the department? Who took the call? Who did the service? What was the desired service? What was done? Remarks about the service, and Is the job complete?"

To make easy the accurate recording of departmental maintenance or trouble calls, a printed and ruled pad, 7 in. by 8½ in. is kept next to the telephone.

Old Men—New Equipment

In answer to the question: "Can an old man learn to use new equipment?" Mr. Harrison asserted: "They certainly can. One of our best men is 74 or 75 years old. He's the air-conditioning operator."

Address and Film Features

Other features in the program were the scheduled presentations by William Lefevre of the T. W. and C. B. Sheridan Co., who gave an interesting discussion and a film presentation of the Sheridan Newspaper Stuffing machine. Howard Jampol of the Jampol Co. was allotted a place on the program to show a film presentation of the Milwaukee (Wis.) *Journal* mailroom. Runion Production Engineers exhibited a movie showing the closed system of mailroom operation at the Cincinnati (O.) *Enquirer*.

Pre-Conference Sessions

The Western Division Conference was scheduled to open on Monday, Jan. 29. However, the Program Committee provided meeting rooms for each of two Pre-Conference Sessions. These were the

RULE
BORDERS
LEADS · SLUGS
COMPOSING ROOM EQUIPMENT
PRINTERS' SUPPLIES
Make it a rule to get your rule, borders, leads, slugs, and supplies from Taylor-Made . . . there are NONE BETTER!
Try Taylor-Made once . . . you'll buy Taylor-Made always!
This Taylor-Made Catalog should be on your desk — may we send you one?
Taylor-Made Rule Co.
"NONE BETTER"
71 FLATBUSH AVENUE • BROOKLYN 17, N. Y.
Telephone STerling 9-6500

ROTOGRAVURE

CYLINDER SPOT PLATING MACHINE

- **AT LAST! A self-contained portable Plater that will completely fill a small etched type section with electrolytically plated copper in 10 to 15 minutes, or a larger section with successive platings, using a standard plating solution of copper sulphate and sulphuric acid.**
- **PLATER CAN ALSO BE USED to fill small imperfections on the copper surface of printing cylinders or Ballard shells, eliminating the necessity of temporarily plugging holes with silver, lead, or tin, or in the case of the shell, stripping and replating.**
- **MACHINE IS A COMPLETE UNIT including 6 Volt Selenium Rectifier with necessary wires and clamps, ammeter, variable resistor amperage control, rotary burr for cleaning damaged section, rubber mask which is centered and taped over area to be plated, and a 19½"x 6⅛" x 16¾" hardwood carrying case.**

STANDARD PROCESS CORPORATION

Manufacturing Gravure Equipment & Supplies

2704 W. Roscoe Street • Chicago 18, Ill.

Oldest in the Country-
Sound Foundation for Sound
First in the Field!
QUALITY
For those plus values that are built into each Wood Dry Mat—the values that underlie the surface—there can be no better foundation than Wood research and advanced manufacturing methods . . . resulting in the smooth quality and structural detail that assure the ultimate results in stereotyping performance. That is why easier handling and better printing are guaranteed with Wood.
WOOD FLONG CORP.
HOOSICK FALLS, N. Y.
NEW YORK CITY OFFICE:
551 FIFTH AVE. • NEW YORK 17, N. Y.

GREATER STRENGTH thanks to

WETTER ENGINEERING SKILL

Knowing where to use high-strength material is a job for engineers. *Using* these materials in the right place is WETTER'S way of guaranteeing our numbering machines will give trouble-free service for many years to come. High quality hardened steel is used in all wearable parts. Frame is one piece of solid steel, accurately machined to size.

Wetter engineers have helped pressmen the country over solve their numbering problems. They can help you. There's no obligation.

Ⓟ 7270

Number it Better with a Wetter

WETTER NUMBERING MACHINE CO.

ATLANTIC AVENUE & LOGAN STREET • BROOKLYN 3, N. Y.

SOLD BY ALL DEALERS AND BRANCHES OF A. T. F., INC.

"REGAL" MONOCORK

by

New England

This Press Blanket is by far superior to any cork packing that has ever been available to the industry!

We make this claim with no fear of contradiction. Its perfection is attested to by the fact that we have difficulty in keeping up with the demand.

No matter what your reason may be for not having these blankets on your machine, the simple truth is that you are denying yourself the best. Once you learn what "REGAL" has to offer, you too will be a constant repeat user.

YOU BE THE JUDGE!

NEW ENGLAND FIBRE BLANKET COMPANY

164 FREMONT STREET

WORCESTER MASSACHUSETTS

BRANCHES: New York—Chicago—San Francisco—Tulsa

NEWSPAPER PRESSES • TYPESETTING MACHINES
BOUGHT OR SOLD

COMPLETE PLANTS EQUIPPED
LARGE OR SMALL

OFFSET PRESSES • BINDERY EQUIPMENT

BEN SHULMAN ASSOCIATES, INC.
500 FIFTH AVENUE, N. Y. 18, N. Y. • BRyant 9-1132

Composing Room Machinists and the Pressroom Executives.

Machinists

At the Machinists' meeting, T. B. Carpenter of the Dallas *News*, was the topic leader. A rather lengthy list of questions was prepared in advance. The machinists went to work on them and came up with informative answers. A number of the answers to questions are reported below:

Proper attention to mold wipers still seems to come up for discussion at most of the mechanical conferences. Perhaps this is as it should be because continuous operation of the machine is dependent upon the proper functioning of these parts. It is also stressed that the application of too much lubricant can be as troublesome as neglect in not giving the back mold wiper enough lubricant at regular intervals. The reason is that when too much lubricant has been applied to the wiper heat thins lubricants which will foul an entire set of matrices and cause response from the magazines as well as clogged distributor difficulties. Among the lubricants recommended for application to the back mold wiper were Monotype rule oil, 3-in-1 oil used sparingly, Johnson's wax and high grade mineral oil.

The next question: On Mixer Linotypes, what is the proper timing of the secondary box pusher in relation to the primary distributor box? Using a thin space, observe the position and set for ⅛ in. clearance when ready to drop.

Q.: On Linotypes equipped with six-pocket mold disk, what position is correct when timing the disk with the mold turning gear? A.: Position either the No. 1 or the No. 4 mold on mold disk for correct timing.

Q.: On quadder-equipped Linotypes, what is the correct lubricant to use for lubricating the vise jaws? On the Linotype use a mixture, 50% kerosene and 10 w. motor oil; daily cleaning is not required. On the Intertype quadder, clean with gasoline and lubricate with No. 635 dry graphite. Devise a guard to protect keyboard from dust when blowing out the vise parts.

Q.: When Mohr Saw cuts slugs at an angle when ejecting, what should be done? A.: Replace spring at top of knife block. Saw shaft must be true. Square up ejector blades. Replace dull or incorrectly sharpened saw blade.

Q.: What is correct method to use in packing gas metal pots? A.: Apply ¼ in. wet asbestos inside the pot jacket; place crucible in the jacket and fill space around, being careful not to fill in the vent passages.

Q.: What is correct method to use in packing electric metal pots? A.: Pot should be taken off the machine to do a thorough job. Use dry asbestos on electric pots; pack tightly all around. Apply a small amount of oil around the mouthpiece.

Q.: Would the use of certain patented cleaning crystals to be dissolved in water for cleaning matrices be injurious to the matrices? A.: Will definitely damage matrix side walls.

Q.: When breakage occurs to right or left vise locking screws at the time of slug ejection, what can be done to eliminate the condition? A.: Check metal pot lever lockup pressure as recommended in the manufacturer's manual; align mold disk banking blocks properly; give attention to the driving clutch to see that the leather facings do not grab (tackily) the inner rim of the driving pulley.

Q.: What would cause breakage of ejector lever? See answer to previous question. Also keep metal in pot at proper temperature so solid slugs will be cast; see that driving edge of ejector is parallel with mold; keep mold in good condition so "feather edges" will not be cast at base of slug; check metal analysis periodically.

Q.: When fitting an oversize pot pump plunger in the crucible well that has been honed or reamed, what is usually the proper tolerance allowed between plunger and well wall? A.: Approx.: 0.005 in.

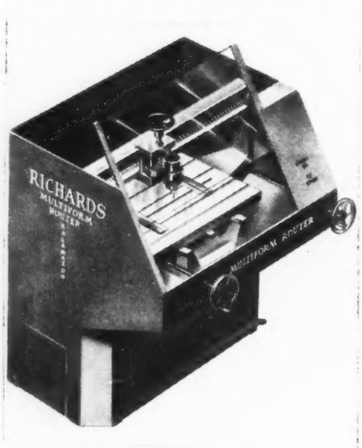
Q.: What is correct measurement of mold body height? A.: 0.875 in.

Q.: In controlling travel of delivery slide, should oil be used as a lubricant in the face plate channel? A.: Use dry graphite only after cleaning the channels.

Q.: What is correct setting of pot pump stop on quadder-equipped machines? A.: Permit 1/64 in. clearance on the quadder-equipped machine and 1/32 in. on no-quadder machine. Adjustments are the same for the Intertype.

Q.: When matrices fail to respond properly or do not double, and you are sure that magazine and matrices are clean and free of burrs, what should be

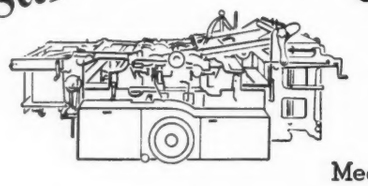
RICHARDS ROUTERS—
Produce Extra Profits



A WONDER WORKER
OUR NEW "*STRATOLINE*"
FULLY ENCLOSED ROUTER

J. A. RICHARDS CO.
Kalamazoo, Michigan

"It's a pleasure to work on a miller automatic"



Pressmen like the accessibility and ease of operation of Miller presses. Mechanical adjustments are so simple that time can be devoted to better work and "tricks of the trade". Write for details.

MILLER PRINTING MACHINERY CO. – 1103 REEDSDALE ST., PITTSBURGH 33, PA.

CLASSIFIED ADVERTISING

ALL CLASSIFICATIONS

$.75 per line 1 9/16" wide. Minimum ad 5 lines, 29 characters per line. Cash with order.

CLOSING DATE—15th of Month preceding Date of Issue.

We will forward all mail addressed to Box Numbers. When answering Box Numbered ads, address as follows: Box Number . . . PRINTING EQUIPMENT Engineer, 1276 West 3rd Street, Cleveland 13, Ohio.

FOR SALE

Cutler-Hammer two-motor full automatic newspaper press drives and control panels. 220 volt, 3 phase, 60 cycle AC. Complete with resistors and push button stations. One 75/7½ H.P. crosshead type, will power 3 or 4 unit press. One 40/3 H.P. face plate type, will power 4 decks single width, quad or 16 page tubular press. Used, serviceable, recently withdrawn from service, reasonably priced, immediately available.

The Eastern Color Printing Company
Waterbury 20, Conn.

Use this classified ad section in obtaining needed mechanical and production executives.

FOR SALE

Model 22 Linotype, high serial, with 3 main and side magazine, gas pot with Monomelt, and four fonts display mats; 1-ton Kemp Lino Furnace with Margach molds; Model 25 Vandercook full pg. Proof Press; NEW Hall Form Tables and "Dural" Stereo. Chases; 24-page Hoe Newspaper Press.

Thomas W. Hall Company, Inc.
120 West 42nd St., New York, 18
(Plant at Stamford, Conn.)

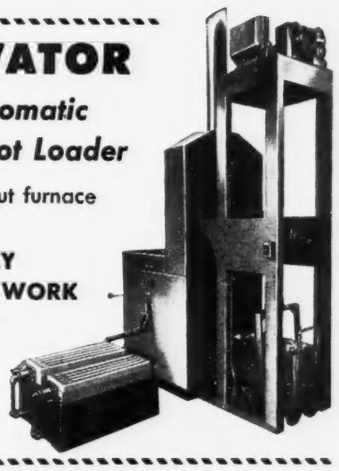
FOR SALE

Grinders for RUBBER PRINTING PLATES AND STAMPS. Get our trial offer. No obligation. Write for free literature. O. C. Haney Co., 3859 Victoria Ave., Los Angeles 8, Calif.

★ STAR CUT CEMENT ★
Since 1936 — *For Mounting* — Since 1936
CUTS. .STEREOTYPES...ELECTROTYPES
65c per tube-$5.50 per doz. $5.00 per doz. in two doz. lots, $4 50 per doz. in gross lots.
★ STAR CEMENT COMPANY ★
45 Malone Avenue, BELLEVILLE 9, N.J.

CLINE-WESTINGHOUSE
ELECTRICAL EQUIPMENT
Unit Press Drives . . . Reels . . . Automatic Tensions . . . Speed Pasters provide safety and reliability with economy. Whether large or small . . . letterpress or offset . . . your press-room can rely on Cline-Westinghouse Electrical Equipment.
CLINE ELECTRIC MFG. CO.
MAIN OFFICE: 3405 W. 47th St., Chicago 32
410 Bush St. San Francisco — CLINE SYSTEM — 220 E. 42nd St. New York City

***The* MELTEVATOR**
. . . a New Automatic Melting Pot Loader
Supplied with or without furnace
SAVES TIME
SAVES MONEY
SAVES WORK
Write for Details



NOLAN *Corporation*
ROME, NEW YORK

NEWSPAPER & PRINTING PLANT ENGINEERING
NEW BUILDINGS • MODERNIZATION
SURVEYS • CONSULTATION
ROBERT W. DICKERSON
2063 EAST 4TH STREET • CLEVELAND 15, OHIO

Mechanical and production executives are invited to submit to the editor mechanical or production helps which have been devised in their plants. Our readers will be glad for the information.

WEB DRYING APPARATUS
for ROTOGRAVURE • WEB-OFFSET • ANALINE LETTERPRESS
B. OFFEN & CO.
168 N. Michigan Ave. Chicago 1, Illinois

Keep your presses rolling with
OHIO ROLLERS
Our Duro-Major all season rollers are guaranteed not to shrink below press adjustment.
OHIO ROLLER COMPANY
4408 DETROIT AVENUE CLEVELAND 13, OHIO
6333 E. CANFIELD DETROIT 7, MICHIGAN

done to correct this condition? A.: Escapement verge springs may not have enough tension; they should be strengthened so the spring will cause the verge to clear the bottom of the magazine channel. If the overthrow spring in the keyrod is too weak, the keyrod cannot exert enough lift against the verge.

Q.: What effect does star wheel have on assembling matrices when star wheel tension is "real tight"? A.: Causes assembler slide to advance too far to left, irregular assemblage of matrices, and causes them to jump out of assembler. Adjust star wheel tension so the star wheel will assemble the last matrix in a 30 pica line.

Q.: What is cause of porous slugs when metal temperature is OK and the mouthpiece vents and lockup are in proper condition? A.: Dirty pot pump plunger, dross ring at lower section of pot crucible well; metal level too low in pot causing entrance of too much air in the flow of metal in the crucible throat and in mold cavity; vent in bottom of plunger too large.

Q.: What trouble, if any, do you have with Intertype baffle mouthpiece? A.: Baffle should be cleaned out every six months.

Pressroom Meeting

The Pressroom meeting was held as a pre-conference session. Paul Tanner, Pressroom Supt. of the Houston (Tex.) *Post*, presided. Mr. Tanner also addressed the meeting on newspaper color and some of the problems existing in the publishing plant, all of which prevent the pressroom attaining the quality of printing expected of it.

Following is an abstract of Mr. Tanner's address:

When I think of problems of the pressroom, I am thinking of the problems of every mechanical department. Because the finished product of a newspaper is produced in the pressroom, it becomes the problem of all the departments.

Strike-through, show-through and first impression printing have been problems of long standing. Color registration adds to the problems as well as to the waste.

Let me say a few words about color and color registration. Color that is not in register is worse than no color at all. I said at the mechanical conference at Fort Worth that until the publisher is ready to buy the equipment necessary to run color in register, it is our duty to discourage color. At this point, another delegate observed logically: "I don't know how you can discourage it. The customer wants it. It's here." I still insist that we had better give color to the advertisers in correct register.

Mis-register of black and one color may sometimes be passable, and sometimes entirely unacceptable, according to the nature of the copy.

Mis-register of black and two or three colors must always be disastrous, not having color to offer or offering color not in register leads to the same end or result.

In these cases, it is not the color that suffers—it is the newspaper that suffers. Advertising revenue will simply be diverted to those newspapers that do render color subjects in satisfactory register.

Now we come to the question of that "no man's land" in registering technique that lies between the Autoshaver and the press. We have to take sets of stereotype plates machined for one-color printing and register them on the press by difficult time-consuming trial and error methods. Sometimes we get surprisingly good results—often not so good.

We have heard a lot about color in the daily newspaper. Much that we see and hear represents sound and logical approaches to the problem. However, we also see and hear much that is far from being practical. There are those that are thinking of magazine color printing in the daily newspaper at newspaper speeds on black newspaper presses and without much change in the daily newspaper setup so far as equipment and supplies are concerned.

I don't believe magazine quality of color printing is possible in the daily newspaper at the top speeds at which daily papers are produced in black and white. Also, I do not believe that magazine quality in the daily paper is possible with the paper, ink, plates and soft packing used in the daily paper today.

To approach magazine color quality in the daily paper it seems reasonable to presume that we must also approach magazine equipment and supplies and be satisfied with magazine production which is far below top production of the daily paper.

It is not my purpose today, to make the running of color sound impossible to you, but to point out some of its problems. Then we should not overlook the fact that we can't accept a color ad that involves art work, color separation and all the operation involved in reproducing such copy without adequate time to prepare such copy and complete the operations essential to such color advertising.

With the possible exception of the press itself, the pressroom has very little control over the materials entering into its work. Paper, ink, blankets, rollers, lubrication, color and all the materials from the engravings to the stereotype plates are variables which the pressroom accepts upon recommendation.

It is obviously the responsibility of the various departments and manufacturers supplying the pressroom to co-ordinate their efforts in improving their products.

Mutual technical problems were discussed, after which the meeting adjourned.

Peak Days Change

Carl P. Lawrence, Composing Room Supt., Tulsa (Okla.) *World-Tribune*, conducted the Composing Room session. He reported that last fall had seen peak production in the newspaper's history. But, he said, peak days had changed from the last part of the week to the first part, in consequence of the decision of merchants to keep stores open Thursday nights.

"This shifted our big volume from Thursday night to Tuesday and Monday night," he said. "We got caught several weeks, after the merchants decided to keep open Thursday night, with our smallest crews on Monday, which was the way we used to have it. We had to readjust our crews to fit the new volume."

ADVERTISERS' INDEX
March 1951

P. E. E. REPRESENTATIVES

WILLIAM L. OSBORN, Eastern Manager, 1712 Grand Central Terminal, New York 17, N. Y. Phone MUrray Hill 6-5980.

EUGENE A. POWERS, Midwest Manager, 612 N. Michigan Ave., Chicago 11, Ill. Phone: SUperior 7-2444.

Amsterdam Continental Type and Graphic Equipment, Inc. 63
Ansco, Div. of General Aniline & Film Corp. 15
Atlantic Zinc Works, Inc. 52

Baum, Russell Ernest, Inc. 62
Blatchford Div., National Lead Co. 61
Bingham's, Sam'l, Son Mfg. Co. 4
Booth, The E. A., Rubber Co. 62
Burgess Cellulose Co. 53

Certified Dry Mat Corp. 65
Challenge Machinery Co., The 57
Chandler & Price Co., The 14
Cline Electric Mfg. Co. 71

Dayton Rubber Co., The 8
Dexter Folder Co. 21
Dickerson, Robert W. 71
Dutro, Orville, & Son, Inc. 20

Eastern Newspaper Supply, Inc. 51
Elwell-Parker Electric Co. 18

Fairchild Camera & Instrument Corp. 49
Force, Wm. A., & Co., Inc. 67
Ford Instrument Co., Div. The Sperry Corp. 63

General Electric Co. 9
General Plate Makers Supply Co. 60
Goss Printing Press Co., The ..... Inside front cover

Hammond Machinery Builders, Inc. ..... Inside back cover
Harris-Seybold Co. 2
Hess & Barker 55

Imperial Type Metal Co. 58, 65
Intertype Corporation ..... Outside back cover

Linotape Products Co. 54
Linotype Parts Co., Inc. 50, 61, 66
Ludlow Typograph Co. 7

Matrix Contrast Corp. 22
Mendes, J. Curry, Corp. 57
Mergenthaler Linotype Co. 45
Miehle Printing Press & Mfg. Co., The 11
Miller Printing Machinery Co. 55, 64, 66, 70
Minnesota Mining & Mfg. Co. 17
Monomelt Co., The 65
Morrison Co., The 47

New England Fibre Blanket Co. 69
New Products Div., Beveridge Paper Co., The 66
Nolan Corporation 71

Offen, B., & Co. 71
Ohio Roller Co. 71

Pereira, Morton L., & Associates 67
Precision Engraving Co. 68

Rathbun & Bird Co., Inc. 67
Richards, J. A., Co. 70
Riehl Galley Lock Co., The 64
Rouse, H. B., & Co. 56

Scott, Walter, & Co. 6
Shulman, Ben, Associates, Inc. 70
Sta-Hi Corp. 1
Standard Process Corp. 69
Star Cement Co. 71
Strong Electric Corp., The 19

Taylor-Made Rule Co. 68
Timken-Roller Bearing Co. 3
Tingue, Brown & Co. 59

Vandercook & Sons, Inc. 10

Webendorfer Div., American Type Founders 12, 13
Western Gear Works 20
Wetter Numbering Machine Co. 69
Wood Flong Corp. 69
Wood Newspaper Machinery Corp. 16

Dayton Rubber Report

The Dayton Rubber Co. recently issued its 45th Annual Report to the stockholders for the fiscal year ended October 31, 1950. Lithographed in three colors, the 24 page report contains numerous illustrations of products manufactured by Dayton Rubber as well as views within the company's plant.

a GOOD *Radial Router* at a MEDIUM PRICE!

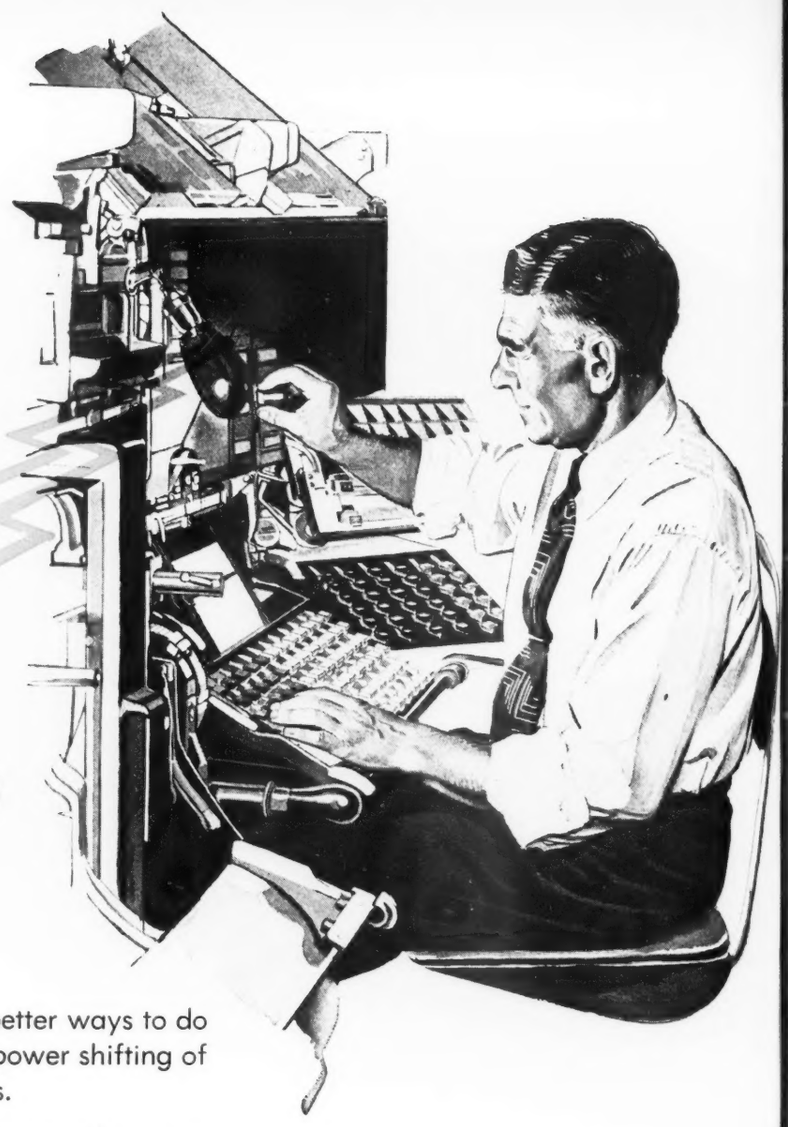
Hammond Radial Router

There are all kinds of radial routers . . . cheap and inadequate . . . *the good Hammond Radial Router at a medium price* . . . and the higher priced extra sensitive engravers' routers.

The Hammond Radial Router has what it takes to give you good routing performance and years of trouble free service. The ball bearing spindle runs at 12,000 RPM. It incorporates greased sealed bearings, quill and spline shaft. The pulleys and other parts are dynamically balanced for smooth, vibration free operation. The Hammond Radial Router is fully powered, ruggedly built and has good "feel" and sensitivity. The machine has a capacity of up to full-page plates. *The Hammond Radial Router is a good machine at medium price.* Write for complete information, there is, of course, no obligation.

Hammond Machinery Builders INC.

1604 DOUGLAS AVENUE • KALAMAZOO 54, MICHIGAN



USE POWER

instead of push to shift magazines

Muscles aren't outdated, but there are better ways to do many jobs. A typical example of this is power shifting of magazines on Intertype® Mixer machines.

With the No-turn Autoshift, the operator simply sets a convenient control knob to change from one magazine to another . . . power does the rest. It works automatically . . . changes magazine positions in main and side units effortlessly . . . is faster than any other method.

Now ten years old, the Autoshift has proved a popular production aid in thousands of composing rooms. This device is dependable, safe in operation, highly efficient.

When it's time to shift, the eye-level Distributor Signal Light tells the operator at a glance whether or not all matrices have cleared the distributor. 12 Pt Futura Book with Demibold

Look to Progressive INTERTYPE

INTERTYPE CORPORATION

Brooklyn 2, N.Y.; Chicago 5, Ill.; Boston 10, Mass.; San Francisco 11, Cal.; Los Angeles 15, Cal.; New Orleans 10, La.